

# NACOmatic

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**Contact:**

Doug Ranz

248-318-0011

[NACOmatic@hotmail.com](mailto:NACOmatic@hotmail.com)

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MN Min Alt#1 -	4	FSE -	137	ULM -	339
MN Min Rdr#1 -	9	GDB -	149	VVV -	345
MN Min TO#1 -	12	GHW -	141	XVG -	185
04W -	163	GPZ -	145		
04Y -	153	GYL -	138		
12D -	453	HCD -	165		
14Y -	184	HCO -	151		
16D -	355	HIB -	155		
21D -	411	HZX -	204		
48Y -	358	INL -	167		
55Y -	388	JKJ -	330		
ACQ -	465	JMR -	334		
ADC -	459	JYG -	408		
AEL -	26	LJF -	179		
AIT -	25	LVN -	252		
ANE -	206	LXL -	182		
AQP -	33	MGG -	195		
AUM -	35	MIC -	259		
AXN -	30	MJQ -	176		
BBB -	49	MKT -	188		
BDE -	41	MML -	199		
BDH -	469	MOX -	335		
BFW -	391	MSP -	267		
BJI -	45	MVE -	329		
BRD -	55	MWM -	474		
CBG -	69	MZH -	332		
CFE -	65	ONA -	477		
CHU -	67	ORB -	343		
CKC -	143	OTG -	482		
CKN -	83	OVL -	341		
CNB -	76	OWA -	347		
COQ -	78	PKD -	351		
CQM -	82	PNM -	363		
D00 -	24	PQN -	359		
D37 -	460	PWC -	356		
D39 -	390	RGK -	366		
D42 -	398	ROS -	386		
DLH -	94	ROX -	382		
DTL -	87	RRT -	461		
DVP -	393	RST -	372		
DXX -	187	RWF -	370		
DYT -	109	RYM -	70		
ELO -	111	SAZ -	444		
ETH -	468	SBU -	54		
EVM -	116	SGS -	394		
FBL -	127	STC -	399		
FCM -	228	STP -	414		
FFM -	131	TKC -	455		
FKA -	362	TOB -	91		
FOZ -	52	TVF -	445		
FRM -	119	TWM -	457		

**INSTRUMENT APPROACH PROCEDURE CHARTS**

**IFR ALTERNATE AIRPORT MINIMUMS**

Standard alternate minimums for non precision approaches are 800-2 (NDB, VOR, LOC, TACAN, LDA, VORTAC, VOR/DME, ASR or WAAS LNAV); for precision approaches 600-2 (ILS or PAR). Airports within this geographical area that require alternate minimums other than standard or alternate minimums with restrictions are listed below. NA - means alternate minimums are not authorized due to unmonitored facility or absence of weather reporting service. Civil pilots see FAR 91. IFR Alternate Airport Minimums: Ceiling and Visibility Minimums not applicable to USA/USN/USAF. Pilots must review the IFR Alternate Airport Minimums Notes for alternate airfield suitability.

NAME	ALTERNATE MINIMUMS	NAME	ALTERNATE MINIMUMS
<b>ABERDEEN, SD</b>		<b>BISMARCK, ND</b>	
ABERDEEN RGNL .....	<b>RNAV (GPS) Rwy 13</b>	BISMARCK MUNI .....	<b>ILS Rwy 13<sup>12</sup></b>
	<b>RNAV (GPS) Rwy 31</b>		<b>ILS Rwy 31<sup>12</sup></b>
	<b>RNAV (GPS) Rwy 35</b>		<b>RADAR-1<sup>3</sup></b>
	<b>VOR Rwy 31</b>		<sup>1</sup> ILS, Category D, 800-2½; Category E, 900-3.
	<b>VOR/DME Rwy 13</b>		LOC, NA.
NA when local weather not available.			<sup>2</sup> NA when control tower not in operation.
			<sup>3</sup> NA when control tower closed.
<b>ALBERT LEA, MN</b>		<b>BRAINERD, MN</b>	
ALBERT LEA MUNI .....	<b>RNAV (GPS) Rwy 16</b>	BRAINERD LAKES RGNL ...	<b>ILS or LOC Rwy 23</b>
NA when local weather not available.			<b>RNAV (GPS) Rwy 12</b>
			<b>RNAV (GPS) Rwy 23</b>
<b>ALEXANDRIA, MN</b>			<b>RNAV (GPS) Rwy 30</b>
CHANDLER FIELD .....	<b>RNAV (GPS) Rwy 31</b>		<b>RNAV (GPS) Rwy 34</b>
NA when local weather not available.			
			NA when local weather not available.
<b>AUSTIN, MN</b>		<b>BROOKINGS, SD</b>	
AUSTIN MUNI .....	<b>RNAV (GPS) Rwy 17</b>	BROOKINGS RGNL .....	<b>RNAV (GPS) Rwy 12</b>
	<b>RNAV (GPS) Rwy 35</b>		<b>RNAV (GPS) Rwy 30</b>
	<b>VOR/DME-A</b>		
NA when local weather not available.			NA when local weather not available.
<b>BAUDETTE, MN</b>		<b>CANBY, MN</b>	
BAUDETTE INTL .....	<b>RNAV (GPS) Rwy 30<sup>1</sup></b>	MYERS FIELD .....	<b>RNAV (GPS) Rwy 12</b>
	<b>VOR/DME Rwy 12<sup>2</sup></b>		<b>RNAV (GPS) Rwy 30</b>
	<b>VOR Rwy 30<sup>2</sup></b>		NA when local weather not available.
<sup>1</sup> NA when local weather not available.		<b>CLOQUET, MN</b>	
<sup>2</sup> Category C, 800-2½; Category D, 800-2½.		CLOQUET CARLTON	
<b>BEMIDJI, MN</b>		COUNTY .....	<b>RNAV (GPS) Rwy 35</b>
BEMIDJI RGNL .....	<b>RNAV (GPS) Rwy 13</b>		NA when local weather not available.
	<b>RNAV (GPS) Rwy 31</b>		
NA when local weather not available.		<b>COOK, MN</b>	
<b>BENSON, MN</b>		COOK MUNI .....	<b>RNAV (GPS) Rwy 31</b>
BENSON MUNI .....	<b>RNAV (GPS) Rwy 14</b>		NA when local weather not available.
	<b>RNAV (GPS) Rwy 32</b>	<b>CROOKSTON, MN</b>	
NA when local weather not available.		CROOKSTON MUNI-	
		KIRKWOOD FIELD .....	<b>RNAV (GPS) Rwy 13<sup>1</sup></b>
			<b>RNAV (GPS) Rwy 31<sup>1</sup></b>
			<b>VOR Rwy 31<sup>2</sup></b>
			<sup>1</sup> NA when local weather not available.
			<sup>2</sup> Category A,B, 900-2; Category C, 900-2½.

NAME ALTERNATE MINIMUMS  
**DETROIT LAKES, MN**  
 DETROIT LAKES-  
 WETHING FIELD ..... RNAV (GPS) Rwy 13  
    RNAV (GPS) Rwy 31  
 NA when local weather not available.  
 Category D, 800-2¼.

**DEVILS LAKE, ND**  
 DEVILS LAKE RGNL ..... RNAV (GPS) Rwy 3  
    RNAV (GPS) Rwy 13  
    RNAV (GPS) Rwy 31  
    VOR Rwy 3¹  
    VOR Rwy 21²  
 NA when local weather not available.  
 ¹Categories A,B, 900-2; Category C, 900-2½;  
 Category D, 900-2¾.  
 ²Category C, 800-2¼, Category D, 800-2½.

**DICKINSON, ND**  
 DICKINSON-THEODORE  
 ROOSEVELT RGNL ..... RNAV (GPS) Rwy 14  
    RNAV (GPS) Rwy 32  
    VOR-A  
 NA when local weather not available.

**DODGE CENTER, MN**  
 DODGE CENTER ..... RNAV (GPS) Rwy 16  
    RNAV (GPS) Rwy 34  
    VOR-A  
 NA when local weather not available.

**DULUTH, MN**  
 DULUTH INTL ..... COPTER ILS Rwy 9  
    COPTER ILS Rwy 27  
    ILS Rwy 9  
 LOC, NA.

**EVELETH, MN**  
 EVELETH-VIRGINIA  
 MUNI ..... VOR/DME or GPS-A  
 Category C, 800-2¼; Category D, 800-2½.

**FAIRMONT, MN**  
 FAIRMONT MUNI ..... RNAV (GPS) Rwy 13  
    RNAV (GPS) Rwy 31  
    VOR Rwy 13  
    VOR Rwy 31  
 NA when local weather not available.

NAME ALTERNATE MINIMUMS  
**FARGO, ND**  
 HECTOR INTL ..... ILS or LOC Rwy 18¹  
    ILS or LOC Rwy 36¹  
    RNAV (GPS) Rwy 18²  
    RNAV (GPS) Rwy 36²  
    VOR/DME or TACAN Rwy 18²  
    VOR or TACAN Rwy 36³  
 ¹ILS, Category E, 700-2¼. LOC, Category E,  
 800-2¼.  
 ²Category E, 800-2¼.  
 ³Category D, 800-2¼, Category E, 800-2¼.

**FERGUS FALLS, MN**  
 FERGUS FALLS MUNI-EINAR  
 MICKELSON FIELD ..... ILS or LOC Rwy 31¹  
    NDB Rwy 31²  
    RNAV (GPS) Rwy 31²  
    RNAV (GPS) Rwy 35  
 NA when local weather not available.  
 ¹ILS, Category D, 700-2¼. LOC, Category D,  
 800-2¼.  
 ²Category D, 800-2¼.

**GLENCOE, MN**  
 GLENCOE MUNI ..... RNAV (GPS) Rwy 31  
 NA when local weather not available.

**GRAND FORKS, ND**  
 GRAND FORKS INTL ... ILS or LOC Rwy 35L¹²  
    LOC BC Rwy 17R¹  
    RNAV (GPS) Rwy 9L³  
    RNAV (GPS) Rwy 17R³  
    RNAV (GPS) Rwy 27R³  
    RNAV (GPS) Rwy 35L³  
    VOR Rwy 17R³  
    VOR Rwy 35L³  
 ¹NA when control tower closed.  
 ²ILS, Category E, 700-2½. LOC, Category E,  
 800-2½.  
 ³NA when local weather not available.

**GRAND MARAIS, MN**  
 GRAND MARAIS/  
 COOK COUNTY ..... RNAV (GPS) Rwy 27  
 NA when local weather not available.

**GRAND RAPIDS, MN**  
 GRAND RAPIDS/ITASCA CO-  
 GORDON NEWSTROM .... RNAV (GPS) Rwy 16  
    RNAV (GPS) Rwy 34  
    VOR Rwy 34  
 NA when local weather not available.

NAME ALTERNATE MINIMUMS

**HIBBING, MN**

CHISHOLM-

HIBBING ..... ILS OR LOC/DME Rwy 13<sup>1</sup>  
VOR Rwy 13<sup>2</sup>

<sup>1</sup>ILS, Categories A, B, C, D, 800-2.

<sup>2</sup>Categories A, B, 900-2; Category C, 900-2½;  
Category D, 900-2¾; ILS, 700-2.

**HURON, SD**

HURON RGNL ..... ILS or LOC Rwy 12<sup>12</sup>  
LOC/DME BC Rwy 30<sup>23</sup>  
RNAV (GPS) Rwy 12<sup>23</sup>  
RNAV (GPS) Rwy 30<sup>23</sup>  
VOR Rwy 12<sup>23</sup>

<sup>1</sup>ILS, Category D, 700-2¼. LOC, Category D,  
800-2¼.

<sup>2</sup>NA when local weather not available.

<sup>3</sup>Category D, 800-2¼.

**INTERNATIONAL FALLS, MN**

FALLS INTL ..... COPTER ILS or LOC Rwy 31<sup>1</sup>  
ILS or LOC/DME Rwy 13, 700-2<sup>2</sup>  
ILS or LOC Rwy 31<sup>2</sup>  
RNAV (GPS) Rwy 13<sup>2</sup>  
RNAV (GPS) Rwy 31<sup>2</sup>  
VOR Rwy 13<sup>23</sup>  
VOR/DME Rwy 31<sup>2</sup>

<sup>1</sup>LOC, NA; ILS, NA when local weather not  
available.

<sup>2</sup>NA when local weather not available.

<sup>3</sup>Category D, 800-2¼.

**JACKSON, MN**

JACKSON MUNI ..... RNAV (GPS) Rwy 13  
RNAV (GPS) Rwy 31  
NDB Rwy 13

NA when local weather not available.

**JAMESTOWN, ND**

JAMESTOWN RGNL ..... RNAV (GPS) Rwy 4  
RNAV (GPS) Rwy 13  
RNAV (GPS) Rwy 22  
RNAV (GPS) Rwy 31  
VOR Rwy 31

NA when local weather not available.

**MANKATO, MN**

MANKATO RGNL ..... RNAV (GPS) Rwy 15  
RNAV (GPS) Rwy 33  
VOR Rwy 15  
VOR Rwy 33

NA when local weather not available.

**MAPLE LAKE, MN**

MAPLE LAKE MUNI ..... VOR-A  
NA when local weather not available.

NAME ALTERNATE MINIMUMS

**MARSHALL, MN**

SOUTHWEST MINNESOTA RGNL MARSHALL/  
RYAN FLD ..... RNAV (GPS) Rwy 12  
VOR Rwy 12

NA when local weather not available.

**MINNEAPOLIS, MN**

ANOKA COUNTY-BLAINE ARPT  
(JANES FIELD) ..... ILS or LOC/DME Rwy 27  
RNAV (GPS) Rwy 9  
RNAV (GPS) Rwy 18  
RNAV (GPS) Rwy 27  
VOR Rwy 9  
VOR/DME Rwy 27

NA when local weather not available.

CRYSTAL ..... RNAV (GPS) Rwy 14L  
NA when local weather not available.

**FLYING**

CLOUD ..... COPTER ILS or LOC Rwy 10R<sup>1</sup>  
RNAV (GPS) Rwy 10L<sup>2</sup>  
RNAV (GPS) Rwy 28R<sup>2</sup>  
VOR Rwy 36<sup>3</sup>

<sup>1</sup>NA when control tower closed.

<sup>2</sup>NA when local weather not available.

<sup>3</sup>Category C, 800-2¼; Category D, 800-2½.

**MINNEAPOLIS-ST. PAUL INTL/**

WOLD CHAMBERLAIN ..... ILS Rwy 4<sup>1</sup>  
ILS or LOC Rwy 12L<sup>1</sup>  
ILS or LOC Rwy 12R<sup>1</sup>  
ILS or LOC Rwy 30L<sup>1</sup>  
ILS or LOC Rwy 30R<sup>1</sup>  
ILS or LOC Rwy 35<sup>2</sup>  
LOC Rwy 4<sup>3</sup>  
LOC Rwy 22<sup>3</sup>  
RNAV (GPS) Rwy 4<sup>3</sup>  
RNAV (GPS) Rwy 12L<sup>3</sup>  
RNAV (GPS) Rwy 12R<sup>3</sup>  
RNAV (GPS) Rwy 22<sup>3</sup>  
RNAV (GPS) Rwy 30L<sup>3</sup>  
RNAV (GPS) Rwy 30R<sup>3</sup>  
RNAV (GPS) Z Rwy 35<sup>4</sup>

<sup>1</sup>ILS, Category D, 700-2; Category E, 900-3.

LOC, Category E, 900-3.

<sup>2</sup>ILS, Categories A, B, C, D, 700-2; Category  
E, 900-3. LOC, Category E, 900-3.

<sup>3</sup>Category E, 900-3.

<sup>4</sup>Category D, 800-2¼.

**MINOT, ND**

MINOT INTL ..... ILS or LOC Rwy 31<sup>12</sup>  
LOC/DME BC Rwy 13<sup>1</sup>  
RNAV (GPS) Rwy 13  
RNAV (GPS) Rwy 31

NA when local weather not available.

<sup>1</sup>NA when tower closed.

**NAME** **ALTERNATE MINIMUMS**  
**MITCHELL, SD**  
MITCHELL MUNI ..... RNAV (GPS) Rwy 12  
RNAV (GPS) Rwy 30  
VOR Rwy 12  
VOR Rwy 30<sup>1</sup>

NA when local weather not available.

<sup>1</sup>Categories A,B, 1000-2; Categories C,D, 1000-3.

**MOBRIDGE, SD**  
MOBRIDGE MUNI ..... RNAV (GPS) Rwy 12<sup>1</sup>  
RNAV (GPS) Rwy 30<sup>2</sup>

NA when local weather not available

<sup>1</sup>Category D, 900-2¾.

<sup>2</sup>Category C, 800-2¼; Category D, 900-2¾.

**MORRIS, MN**  
MORRIS MUNI-CHARLIE  
SCHMIDT FLD ..... RNAV (GPS) Rwy 14  
RNAV (GPS) Rwy 32

NA when local weather not available.

**PINE RIDGE, SD**  
PINE RIDGE ..... RNAV (GPS) Rwy 30  
NA when local weather not available.  
Categories A,B, 900-2.

**PIPESTONE, MN**  
PIPESTONE MUNI ..... NDB Rwy 36  
RNAV (GPS) Rwy 18  
RNAV (GPS) Rwy 36

NA when local weather not available.

**PRESTON, MN**  
FILLMORE COUNTY ..... RNAV (GPS) Rwy 29  
NA when local weather not available.

**RAPID CITY, SD**  
RAPID CITY RGNL ..... ILS or LOC Rwy 32<sup>1</sup>  
RNAV (GPS) Rwy 14<sup>2</sup>  
RNAV (GPS) Rwy 32  
VOR or TACAN Rwy 14<sup>2</sup>  
VOR or TACAN Rwy 32<sup>2</sup>

NA when local weather not available.

<sup>1</sup>ILS, Category D, 700-2; Category E, 700-2¼.

LOC, Category E, 800-2¼.

<sup>2</sup>Category E, 800-2¼.

**REDWOOD FALLS, MN**  
REDWOOD FALLS  
MUNI ..... RNAV (GPS) Rwy 30  
VOR-A

Category D, 800-2¼.

NA when local weather not available.

**NAME** **ALTERNATE MINIMUMS**  
**ROCHESTER, MN**  
ROCHESTER INTL ..... ILS or LOC Rwy 13  
ILS or LOC Rwy 31  
COPTER ILS or LOC Rwy 31  
NA when control tower closed.

**ROSEAU, MN**  
ROSEAU MUNI/  
RUDY BILLBERG FIELD ... RNAV (GPS) Rwy 16  
RNAV (GPS) Rwy 34  
NA when local weather not available.

**ST. CLOUD, MN**  
ST. CLOUD RGNL .. ILS or LOC/DME Rwy 13<sup>123</sup>  
RNAV (GPS) Rwy 5<sup>1</sup>  
RNAV (GPS) Rwy 13<sup>1</sup>  
RNAV (GPS) Rwy 23<sup>1</sup>  
RNAV (GPS) Rwy 31<sup>1</sup>  
VOR/DME Rwy 13<sup>12</sup>  
VOR Rwy 31<sup>12</sup>

<sup>1</sup>NA when local weather not available.

<sup>2</sup>NA when control tower closed.

<sup>3</sup>ILS, Categories, A, B, C, D, 700-2.

**ST. PAUL, MN**  
ST. PAUL DOWNTOWN HOLMAN  
FIELD ..... COPTER ILS or LOC Rwy 32<sup>1</sup>  
ILS or LOC Rwy 14<sup>12</sup>  
ILS or LOC Rwy 32<sup>12</sup>  
RNAV (GPS) Rwy 14<sup>2</sup>  
RNAV (GPS) Rwy 32<sup>3</sup>

NA when control tower closed.

<sup>2</sup>Categories A,B, 900-2; Category C, 900-2¼;

Category D, 900-2¼.

<sup>3</sup>Categories A,B,C, 900-2¼; Category D, 900-2¼.

**SIoux FALLS, SD**  
JOE FOSS FIELD ..... ILS Rwy 31<sup>2</sup>  
ILS Rwy 21<sup>1</sup>  
RADAR-1<sup>3</sup>  
VOR or TACAN Rwy 15<sup>4</sup>  
VOR/DME or TACAN Rwy 33<sup>3</sup>

<sup>1</sup>NA when control tower closed.

<sup>2</sup>LOC, NA.

<sup>3</sup>Category E, 800-2¼.

<sup>4</sup>Category E, 900-3.

**SOUTH ST. PAUL, MN**  
SOUTH ST. PAUL MUNI-RICHARD E  
FLEMING FIELD ..... RNAV (GPS) Rwy 34  
Category D, 800-2¼.  
NA when local weather not available.



# RADAR INSTRUMENT APPROACH MINIMUMS

## BISMARCK, ND

Amdt. 3A, DEC 13, 2002 (FAA)

ELEV 1661

## BISMARCK MUNI

RADAR - 126.3 298.9 

				DA/ HATh/	HAT/ HATH/			DA/ HATh/	HAT/ HATH/	
	RWY	GS/TCH/RPI	CAT	MDA-VIS	HAA	CEIL-VIS	CAT	MDA-VIS	HAA	CEIL-VIS
ASR	13		AB	2100-1	445	(500-1)	C	2100-1¼	445	(500-1¼)
			D	2100-1½	445	(500-1½)				
	31		AB	2100/24	455	(500-½)	C	2100/40	455	(500-¾)
			D	2100/50	455	(500-1)				
	21		AB	2120-1	459	(500-1)	C	2120-1¼	459	(500-1¼)
			D	2120-1½	459	(500-1½)				
	3		AB	2120-1	459	(500-1)	C	2120-1¼	459	(500-1¼)
			D	2120-1½	459	(500-1½)				
CIRCLING			A	2180-1	519	(600-1)	B	2220-1	539	(600-1)
			C	2220-1½	559	(600-1½)				

Inoperative table does not apply to MALS Rwy 13.

## DULUTH, MN

Amdt. 20, OCT 7, 1999 (FAA)

ELEV 1428

## DULUTH INTL

RADAR - 125.45 255.9

				DA/ HATh/	HAT/ HATH/			DA/ HATh/	HAT/ HATH/	
	RWY	GS/TCH/RPI	CAT	MDA-VIS	HAA	CEIL-VIS	CAT	MDA-VIS	HAA	CEIL-VIS
ASR	3		ABC	1820-1	400	(400-1)	D	1820-1¼	400	(400-1¼)
			E	1820-1½	400	(400-1½)				
	27		AB	1860/24	439	(500-½)	C	1860/40	439	(500-¾)
			DE	1860/50	439	(500-1)				
	21		AB	1860-1	440	(500-1)	C	1860-1¼	440	(500-1¼)
			DE	1860-1½	440	(500-1½)				
	9		AB	1880/24	452	(500-½)	C	1880/40	452	(500-¾)
			DE	1880/50	452	(500-1)				
CIRCLING			AB	1920-1	492	(500-1)	C	1920-1½	492	(500-1½)
			DE	1980-2	552	(600-2)				

Category E circling NA southeast of Rwy 3 and 27.

# RADAR INSTRUMENT APPROACH MINIMUMS

## ELLSWORTH AFB (KRCA) (Rapid City), SD (Amdt 1, 08045 USAF)

ELEV 3276

RADAR - (E) 119.5 259.1<sup>1</sup>

				DH/ MDA-VIS	HAT/ HATH/ HAA	CEIL-VIS
ASR	<u>RWY</u>	<u>GS/TCH/RPI</u>	<u>CAT</u>			
	13 <sup>2</sup>		AB	3820/40	544	(600-¾)
			C	3820/50	544	(600-1)
			D	3820/60	544	(600-1¼)
			E	3820-1½	544	(600-1½)
	31 <sup>2</sup>		AB	3820/40	628	(600-¾)
			C	3820/60	628	(600-1¼)
			D	3820-1½	628	(600-1½)
			E	3820-1¾	628	(600-1¾)
CIR	All Rwy <sup>3</sup>		A	3860-1¼	584	(600-1¼)
			B	3880-1¼	604	(700-1¼)
			C	3880-1¾	604	(700-1¾)
			D	3880-2	604	(700-2)
			E	4040-2¾	764	(800-2¾)

<sup>1</sup>Opr 1300-0730Z++ Mon-Thu, 1300-0500Z++ Fri. 1400-0500Z++ Sat, Sun and hol. <sup>2</sup>When ALS inop, increase CAT AB RVR to 60 and vis to 1¼, increase CAT CDE vis ½ mile. <sup>3</sup>CAT E circling restricted to 28th BW aircraft only; 28th BW aircraft will remain within class D airspace.

## MANDAN, ND

Amdt. 4, NOV 09, 1995 (FAA)

ELEV 1942

## MANDAN MUNI

RADAR - 126.3 298.9  NA

	<u>RWY</u>	<u>GS/TCH/RPI</u>	<u>CAT</u>	<u>DA/</u> <u>MDA-VIS</u>	<u>HAT/</u> <u>HATH/</u> <u>HAA</u>	<u>CEIL-VIS</u>	<u>CAT</u>	<u>DA/</u> <u>MDA-VIS</u>	<u>HAT/</u> <u>HATH/</u> <u>HAA</u>	<u>CEIL-VIS</u>
ASR	31		AB	2360-1	418	(500-1)	CD	2360-1¼	418	(500-1¼)
	13		AB	2460-1	520	(600-1)	C	2460-1½	520	(600-1½)
			D	2460-1¾	520	(600-1¾)				
CIRCLING			A	2460-1	518	(600-1)	B	2500-1	558	(600-1)
			C	2500-1½	558	(600-1½)	D	2500-2	558	(600-2)

Use Bismarck altimeter setting.

When Bismarck control tower closed, ASR NA.



# RADAR INSTRUMENT APPROACH MINIMUMS

## ROCHESTER, MN ROCHESTER INTL

Amdt. 8, JAN 15, 2009 (FAA)

ELEV 1317

RADAR - 119.8 251.125 ▽

			DA/ MDA-VIS	HAT/ HATH/ HAA	CEIL-VIS	CAT	DA/ MDA-VIS	HAT/ HATH/ HAA	CEIL-VIS
ASR	RWY GS/TCH/RP	CAT							
	2	ABC	1680-1	363	(400-1)	D	1680-1¼	363	(400-1¼)
	13	ABC	1640/24	360	(400-½)	D	1640/50	360	(400-1)
	20	ABC	1660-1	356	(400-1)	D	1660-1¼	356	(400-1¼)
	31	ABC	1660/24	356	(400-½)	D	1660/50	356	(400-1)
CIRCLING		A	1720-1	403	(500-1)	B	1780-1	463	(500-1)
		C	1780-1½	463	(500-1½)	D	1880-2	563	(600-2)

When control tower closed, procedure NA. For inoperative MALSR, increase S-13 and S-31 Cat D visibility to RVR 6000. Visibility reduction by helicopters NA Rwy 2-20.

## SIOUX FALLS, SD JOE FOSS FIELD

Amdt. 10A, OCT 3, 2003 (FAA)

ELEV 1429

RADAR - 125.8 353.6 ▽ ▲

			DA/ MDA-VIS	HAT/ HATH/ HAA	CEIL-VIS	CAT	DA/ MDA-VIS	HAT/ HATH/ HAA	CEIL-VIS
ASR	RWY GS/TCH/RPI	CAT							
	3	AB	1940/24	517	(600-½)	C	1940/50	517	(600-1)
		DE	1940/60	517	(600-1¼)				
	33	AB	1920-1	497	(500-1)	C	1920-1¼	497	(500-1¼)
		D	1920-1½	497	(500-1½)	E	1920-1¾	497	(500-1¾)
	21	AB	1960/24	531	(600-½)	C	1960/50	531	(600-1)
		D	1960/60	531	(600-1¼)	E	1960-1½	531	(600-1½)
	15	AB	1960-1	534	(600-1)	C	1960-1½	534	(600-1½)
		D	1960-1¾	534	(600-1¾)	E	1960-2	534	(600-2)
CIRCLING		AB	1960-1	531	(600-1)	C	1960-1½	531	(600-1½)
		D	2040-2	611	(700-2)	E	2300-3	871	(900-3)

When control tower closed, procedure not authorized.

Category E S-3 visibility increased 1¼ mile for inoperative MALSR.

Category E S-21 visibility increased to 2 miles for inoperative MALSR.



## INSTRUMENT APPROACH PROCEDURE CHARTS



## IFR TAKE-OFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

## Civil Airports and Selected Military Airports

ALL USERS: Airports that have Departure Procedures (DPs) designed specifically to assist pilots in avoiding obstacles during the climb to the minimum enroute altitude, and/or airports that have civil IFR take-off minimums other than standard, are listed below. Take-off Minimums and Departure Procedures apply to all runways unless otherwise specified. Altitudes, unless otherwise indicated, are minimum altitudes in MSL.

DPs specifically designed for obstacle avoidance are referred to as Obstacle Departure Procedures (ODPs) and are described below in text, or published separately as a graphic procedure. If the (Obstacle) DP is published as a graphic procedure, its name will be listed below, and it can be found in either this volume (civil), or a separate Departure Procedure volume (military), as appropriate. Users will recognize graphic obstacle DPs by the term "(OBSTACLE)" included in the procedure title; e.g., TETON TWO (OBSTACLE). If not assigned a SID or radar vector by ATC, an ODP may be flown without ATC clearance to ensure obstacle clearance.

Graphic DPs designed by ATC to standardize traffic flows, ensure aircraft separation and enhance capacity are referred to as "Standard Instrument Departures (SIDs)". SIDs also provide obstacle clearance and are published under the appropriate airport section. ATC clearance must be received prior to flying a SID.

CIVIL USERS NOTE: Title 14 Code of Federal Regulations Part 91 prescribes standard take-off rules and establishes take-off minimums for certain operators as follows: (1) Aircraft having two engines or less - one statute mile. (2) Aircraft having more than two engines - one-half statute mile. These standard minima apply in the absence of any different minima listed below.

MILITARY USERS NOTE: Civil (nonstandard) take-off minima are published below. For military take-off minima, refer to appropriate service directives.

## NAME TAKE-OFF MINIMUMS

**ABERDEEN, SD**

ABERDEEN RGNL (ABR)

ORIG 09239 (FAA)

NOTE: **Rwy 17**, trees 1138' from DER, 432' right of centerline, 41' AGL/1336' MSL. **Rwy 31**, multiple trees beginning 1391' from DER, 326' left of centerline, up to 65' AGL/1360' MSL.

**AITKIN, MN**

AITKIN MUNI-STEVE KURTZ FIELD (AIT)

AMDT 2 96172 (FAA)

TAKE-OFF MINIMUMS: **Rwys 8, 26**, 300-1. **Rwy 16**, 300-1 or std. with a min climb of 400' per NM to 1500.

DEPARTURE PROCEDURE: **Rwys 16, 26**, climb runway heading to 1700 before turning.

**ALBERT LEA, MN**

ALBERT LEA MUNI (AEL)

ORIG 85241 (FAA)

DEPARTURE PROCEDURE: **Rwys 16, 22**, climb runway heading to 1800 before turning on course.

**ALEXANDRIA, MN**

CHANDLER FIELD (AXN)

DEPARTURE PROCEDURE: **Rwys 4, 13, 22**, when weather is below 200-1, climb runway heading to 1800 before turning.

## NAME TAKE-OFF MINIMUMS

**APPLETON, MN**

APPLETON MUNI (AQP)

ORIG 94146 (FAA)

DEPARTURE PROCEDURE: **Rwy 4**, climb to 2000 before turning right. **Rwy 31**, climb to 2000 before turning left.

**Rwy 13**, climb to 2400 before turning right. **Rwy 22**, climb to 2400 before turning left.

**AUSTIN, MN**

AUSTIN MUNI (AUM)

ORIG 08045 (FAA)

NOTE: **Rwy 17**, Multiple trees beginning 809' from departure end of runway, 663' right of centerline, up to 61' AGL/1285' MSL. **Rwy 35**, Tree 1380' from departure end of runway, 484' right of centerline, 100' AGL/1314' MSL.

**BAUDETTE, MN**

BAUDETTE INTL (BDE)

ORIG 01193 (FAA)

DEPARTURE PROCEDURE: **Rwy 12**, climb runway heading to 1700 before turning northbound.



# TAKE-OFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

09295

## BELLE FOURCHE, SD

BELLE FOURCHE MUNI (EFC)  
AMDT 2 09015 (FAA)

TAKE-OFF MINIMUMS: **Rwys 18,36**, NA. **Rwy 14**, std. w/min. climb of 240' per NM to 9000 or 1400-3 for climb in visual conditions. **Rwy 32**, std. w/min. climb of 413' per NM to 3900.

DEPARTURE PROCEDURE: **Rwy 14**, for climb in visual conditions: cross Belle Fourche Muni airport at or above 4400 MSL before proceeding on course. **Rwy 32**, climb heading 321° to 3900 before proceeding southbound.

NOTE: **Rwy 14**, trees 651' from departure end of runway, 547' left of centerline, up to 20' AGL/3299' MSL. **Rwy 32**, trees 857' from departure end of runway, 150' left of centerline, up to 20' AGL/3199' MSL. Trees 3880' from departure end of runway, 966' right of centerline, up to 20' AGL/3289' MSL.

## BEMIDJI, MN

BEMIDJI RGNL (BJI)  
AMDT 3 08213 (FAA)

NOTE: **Rwy 7**, vegetation beginning 859' from departure end of runway, 544' right of centerline, up to 62' AGL/1442' MSL. Vegetation beginning 1404' from departure end of runway, 683' left of centerline, up to 44' AGL/1424' MSL. **Rwy 13**, vehicle on road, 541' from departure end of runway, 525' right of centerline, 15' AGL/1398' MSL. **Rwy 25**, poles beginning 1337' from departure end of runway, 205' right of centerline up to 61' AGL/1445' MSL. Trees beginning 1414' from departure end of runway, 254' left of centerline, up to 57' AGL/1441' MSL. Tree 1406' from departure end of runway, 233' right of centerline, 53' AGL/1437' MSL.

## BENSON, MN

BENSON MUNI (BBB)  
AMDT 1 09127 (FAA)

NOTE: **Rwy 14**, numerous trees beginning 838' from DER, 246' right of centerline, up to 33' AGL/1087' MSL. Numerous trees beginning 1232' from DER, 64' left of centerline, up to 69' AGL/1108' MSL. Sign 206' from DER, 198' left of centerline, 19' AGL/1044' MSL. Tower 4884' from DER, 274' right of centerline, 126' AGL/1161' MSL. **Rwy 32**, Tree 2380' from DER, 646' left of centerline, 68' AGL/1107' MSL. Multiple fences beginning 13' from DER, 361' left of centerline, up to 8' AGL/1043' MSL.

## BIGFORK, MN

BIGFORK MUNI (FOZ)  
ORIG 97198 (FAA)

TAKE-OFF MINIMUMS: **Rwy 15**, 400-1 or std. with a min. climb of 250' per NM to 1800.

## BISMARCK, ND

BISMARCK MUNI (BIS)  
AMDT 7 01137 (FAA)

DEPARTURE PROCEDURE: **Rwys 3,31**, climb runway heading to 2500 before proceeding on course.

**Rwys 13,21**, climb runway heading to 3800 before proceeding south.

## BOTTINEAU, ND

BOTTINEAU MUNI (D09)  
ORIG 98113 (FAA)

TAKE-OFF MINIMUMS: **Rwy 13**, 800-1 or std. with a min. climb of 280' per NM to 2500. **Rwy 31**, 900-2 or std. with a min. climb of 360' per NM to 2900. **Rwys 3,21**, NA.

## BRAINERD, MN

BRAINERD LAKES RGNL (BRD)  
AMDT 5 07074 (FAA)

NOTE: **Rwy 12**, multiple trees beginning 165' from departure end of runway, 417' left of centerline, up to 78' AGL/1279' MSL. Multiple trees and vehicle on road beginning 304' from departure end of runway, 206' right of centerline, up to 66' AGL/1277' MSL. **Rwy 16**, multiple trees beginning 1830' from departure end of runway, 749' left of centerline, up to 74' AGL/1314' MSL. **Rwy 23**, multiple trees beginning 1495' from departure end of runway, 179' left of centerline, up to 48' AGL/1285' MSL. Tree 2437' from departure end of runway, 716' right of centerline, 50' AGL/1279' MSL. **Rwy 30**, multiple trees beginning 243' from departure end of runway, 131' left of centerline, up to 61' AGL/1287' MSL. Multiple trees 48' from departure end of runway, 328' right of centerline, up to 59' AGL/1329' MSL.

## BRITTON, SD

BRITTON MUNI (BTN)  
AMDT 2 96060 (FAA)

TAKE-OFF MINIMUMS: **Rwy 13**, 300-1 or std. with a min. climb of 450' per NM to 1600. **Rwy 19**, 300-1. DEPARTURE PROCEDURE: **Rwy 19**, climb runway heading to 2000 before turning.

## BROOKINGS, SD

BROOKINGS RGNL (BKX)  
ORIG 09015 (FAA)

NOTE: **Rwy 12**, pole and trees beginning 1041' from departure end of runway, 207' left of centerline, up to 65' AGL/1705' MSL. Building 1277' from departure end of runway, 825' right of centerline, 38' AGL/1618' MSL. **Rwy 17**, vehicle on road 799' from departure end of runway, on centerline, up to 15' AGL/1687' MSL. Trees beginning 906' from departure end of runway, 464' left of centerline, up to 100' AGL/1749' MSL. **Rwy 30**, railroad beginning 547' from departure end of runway, 502' right of centerline, 23' AGL/1626' MSL. Tree 132' from departure end of runway, 433' left of centerline, 20' AGL/1615' MSL. **Rwy 35**, trees 2892' from departure end of runway, 944' right of centerline, up to 100' AGL/1709' MSL.

## CANBY, MN

MYERS FIELD (CNB)  
ORIG 07186 (FAA)

NOTE: **Rwy 12**, truck on road 183' from departure end of runway, 220' right of centerline, 15' AGL/1204' MSL.

## CASSELTON, ND

CASSELTON ROBERT MILLER RGNL (5N8)  
ORIG 07354 (FAA)

TAKE-OFF MINIMUMS: **Rwy 31**, 400-2½ or std. w/a min. climb of 212' per NM to 1400 or alternatively, with standard takeoff minimums and a normal 200'/NM climb gradient, takeoff must occur no later than 1700' prior to departure end of runway.

NOTE: **Rwy 13**, railroad 30' from departure end of runway, 505' right of centerline, 23' AGL/945' MSL. Vehicle on road 449' from departure end of runway, 300' left of centerline, 15' AGL/949' MSL. **Rwy 31**, trees 2251' from departure end of runway, 456' left of centerline, up to 100' AGL/1052' MSL.

## CAVALIER, ND

CAVALIER MUNI (2C8)  
ORIG 03191 (FAA)

TAKE-OFF MINIMUMS: **Rwy 16**, 300-1 or std. with a min. climb of 430' per NM to 1200.

NOTE: **Rwy 16**, grain elevator 3731' from departure end of runway, 284' left of centerline, 168' AGL/1060' MSL.

## CLOQUET, MN

CLOQUET CARLTON COUNTY (COQ)  
AMDT 1 80248 (FAA)

TAKE-OFF MINIMUMS: **Rwy 7**, 300-1 or std. with a min. climb of 400' per NM to 1400.

## CROOKSTON, MN

CROOKSTON MUNI-KIRKWOOD FIELD (CKN)  
AMDT 2 07298 (FAA)

TAKE-OFF MINIMUMS: **Rwys 6, 17, 24, 35**, NA-turf runways.

NOTE: **Rwy 13**, tree 1998' from departure end of runway, 587' left of centerline, 94' AGL/970' MSL. Pole 1127' from departure end of runway, 662' left of centerline, 46' AGL/926' MSL.

## DETROIT LAKES, MN

DETROIT LAKES-WETHING FIELD (DTL)  
ORIG 05132 (FAA)

TAKE-OFF MINIMUMS: **Rwys 17, 35**, NA.

NOTE: **Rwy 31**, highway 243' from departure end of runway, 267' right of centerline, 15' AGL/1404' MSL. Railroad 534' from departure end of runway, 298' right of centerline, 23' AGL/1411' MSL.

## DEVILS LAKE, ND

DEVILS LAKE RGNL (DVL)  
AMDT 1 80318 (FAA)

TAKE-OFF MINIMUMS: **Rwy 31**, 300-1 or std. with a min. climb of 350' per NM to 1600.

## DICKINSON, ND

DICKINSON-THEODORE ROOSEVELT RGNL (DIK)

AMDT 1 05244 (FAA)

DEPARTURE PROCEDURE: **Rwy 25**, climb via heading 250° to 3100 before turning left.

NOTE: **Rwy 7**, road 887' from departure end of runway, on rwy centerline, 15' AGL/2631' MSL.

## DODGE CENTER, MN

DODGE CENTER (TOB)  
ORIG 09015 (FAA)

TAKE-OFF MINIMUMS: **Rwy 22**, NA-Environmental.  
NOTE: **Rwy 16**, trees 3945' from departure end of runway, 1542' left of centerline, 100' AGL/1409' MSL.

## DULUTH, MN

DULUTH INTL (DLH)  
ORIG 06327 (FAA)

NOTE: **Rwy 3**, multiple trees beginning 21' from departure end of runway, 226' right of centerline, up to 68' AGL/1477' MSL. Multiple trees beginning 246' from departure end of runway, 26' left of centerline, up to 64' AGL/1473' MSL. **Rwy 9**, electrical equipment 207' from departure end of runway, 408' left of centerline, 6' AGL/1425' MSL. **Rwy 21**, tower 3762' from departure end of runway, 410' left of centerline, 92' AGL/1522' MSL. **Rwy 27**, tree 2426' from departure end of runway, 1127' right of centerline, 53' AGL/1522' MSL. Bush and multiple trees beginning 347' from departure end of runway, 484' left of centerline, up to 44' AGL/1533' MSL.

## SKY HARBOR (DYT)

ORIG 83174 (FAA)

TAKE-OFF MINIMUMS: **Rwy 14**, 300-1. **Rwy 32**, 1500-2 or std. with a min. climb of 360' per NM to 2300.

DEPARTURE PROCEDURE: **Rwy 14**, northwest departures (260° CW 030°) climb to 2300 via heading 260° or 030° before proceeding on course.

## EAGLE BUTTE, SD

CHEYENNE EAGLE BUTTE (84D)  
ORIG 96228 (FAA)

TAKE-OFF MINIMUMS: **Rwys 13, 31**, 300-1.

## ELY, MN

ELY MUNI (ELO)  
AMDT 2 97086 (FAA)

TAKE-OFF MINIMUMS: **Rwy 12**, 300-1 or std. with a min. climb of 200' per NM to 1600.

DEPARTURE PROCEDURE: **Rwy 30**, northbound departures climb runway heading to 2000 before turning.

## EVELETH, MN

EVELETH-VIRGINIA MUNI (EVM)  
AMDT 2 94118 (FAA)

TAKE-OFF MINIMUMS: **Rwy 32**, 800-2 or std. with a min. climb to 330' per NM to 2300.

DEPARTURE PROCEDURE: **Rwy 27**, northwest departures (270°-050°) climb runway heading to 2200 before turning.

**FAIRMONT, MN**

FAIRMONT MUNI (FRM)

AMDT 3 09127 (FAA)

NOTE: **Rwy 2**, trees beginning 2466' from DER, 1105' right of centerline, up to 100' AGL/1269' MSL. **Rwy 13**, tree 2340' from DER, 1039' left of centerline, 100' AGL/1269' MSL. **Rwy 20**, trees beginning 1640' from DER, 914' right of centerline, up to 100' AGL/1289' MSL. Trees beginning 913' from DER, 449' left of centerline, up to 100' AGL/1299' MSL. **Rwy 31**, trees beginning 954' from DER, 161' left of centerline, up to 100' AGL/1299' MSL. Trees and road beginning 791' from DER, 339' right of centerline, up to 57' AGL/1226' MSL.

**FARGO, ND**

HECTOR INTL (FAR)

AMDT 4 04330 (FAA)

TAKE-OFF MINIMUMS: **Rwys 13, 31**, NA.NOTE: **Rwy 9**, multiple light poles 1124' from departure end of runway, 305' left of centerline, 20' AGL/927' MSL.**FERGUS FALLS, MN**

FERGUS FALLS MUNI-EINAR MICKELSON FIELD (FFM)

ORIG 09239 (FAA)

NOTE: **Rwy 13**, trees beginning 2612' from DER, 128' right of centerline, up to 100' AGL/1269' MSL. Trees beginning 2514' from DER, 42' left of centerline, up to 100' AGL/1259' MSL. **Rwy 17**, trees beginning 1100' from DER 663' right of centerline, up to 100' AGL/1269' MSL. Road 222' from DER, 469' right of centerline, 15' AGL/1173' MSL. **Rwy 35**, trees beginning 2156' from DER, 176' right of centerline, up to 100' AGL/1289' MSL.

**FOSSTON, MN**

FOSSTON MUNI (FSE)

AMDT 1 87351 (FAA)

TAKE-OFF MINIMUMS: **Rwys 14, 32**, IFR takeoff not authorized.DEPARTURE PROCEDURE: **Rwy 16**, climb runway heading to 2000 before turning.**GETTYSBURG, SD**

GETTYSBURG MUNI (0D8)

AMDT 1 07018 (FAA)

NOTE: **Rwy 4**, multiple trees beginning 1011' from departure end of runway, 420' left of centerline, up to 60' AGL/2119' MSL. **Rwy 13**, multiple trees beginning 1897' from departure end of runway, 975' left of centerline, 60' AGL/2119' MSL. **Rwy 22**, multiple trees beginning 679' from departure end of runway, 117' left of centerline, up to 60' AGL/2109' MSL.

**GLENCOE, MN**

GLENCOE MUNI (GYL)

ORIG 09071 (FAA)

NOTE: **Rwy 13**, trees beginning 349' from DER, 257' right of centerline, up to 100' AGL/1099' MSL. Trees beginning 1211' from DER, 314' left of centerline, up to 100' AGL/1109' MSL. Terrain beginning 53' from DER, 166' left of centerline, up to 998' MSL. Terrain beginning 286' from DER, 435' right of centerline, up to 1001' MSL. **Rwy 31**, trees beginning 501' from DER, 530' right of centerline, up to 100' AGL/1099' MSL. Tree 2577' from DER, 129' left of centerline, 100' AGL/1109' MSL.

**GLENWOOD, MN**

GLENWOOD MUNI (GHW)

AMDT 2 98337 (FAA)

TAKE-OFF MINIMUMS: **Rwy 5**, 1200-2 or std. with a min. climb of 220' per NM to 2900.**GRAFTON, ND**

HUTSON FIELD (GAF)

ORIG 97086 (FAA)

TAKE-OFF MINIMUMS: **Rwy 35**, 400-2 or std. with a min. climb of 420' per NM to 1300.**GRAND FORKS, ND**

GRAND FORKS INTL (GFK)

AMDT 2 09071 (FAA)

NOTE: **Rwy 9L**, tree 127' from DER, 451' left of centerline, 12' AGL/853' MSL. **Rwy 27R**, bush 38' from DER, 474' right of centerline, 5' AGL/844' MSL. **Rwy 35L**, obstruction light on DME 645' from DER, 198' left of centerline, 21' AGL/860' MSL. **Rwy 35R**, tree 1259' from DER, 521' right of centerline, 41' AGL/880' MSL. Tree 1655' from DER, 271' left of centerline, 45' AGL/884' MSL.

**GRANT MARAIS, MN**

GRAND MARAIS/COOK COUNTY (CKC)

ORIG 09015 (FAA)

NOTE: **Rwy 9**, trees beginning 58' from departure end of runway, 168' right of centerline up to 54' AGL/1833' MSL. Bushes 112' from departure end of runway, 142' left of centerline, 11' AGL/1805' MSL. Tree 464' from departure end of runway, 75' left of centerline, 14' AGL/1813' MSL. **Rwy 27**, trees beginning 85' from departure end of runway, 187' left of centerline, up to 59' AGL/1858' MSL. Trees beginning 282' from departure end of runway, 115' right of centerline, up to 42' AGL/1861' MSL.

**GRAND RAPIDS, MN**

GRAND RAPIDS/ITASCA COUNTY-GORDON NEWSTROM FIELD (GPZ)

AMDT 4 09127 (FAA)

TAKE-OFF MINIMUMS: **Rwys 5, 10, 23, 28**, NA-Environmental.

NOTE: **Rwy 16**, tree 1655' from DER, 899' left of centerline, 51' AGL/1410' MSL. Tree 3236' from DER, 1130' right of centerline, 82' AGL/1441' MSL. **Rwy 34**, tree 3416' from DER, 1253' right of centerline, 100' AGL/1399' MSL.



# TAKE-OFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

09295

## GREGORY, SD

GREGORY MUNI, FLYNN FIELD (9D1)

ORIG 97142 (FAA)

TAKE-OFF MINIMUMS: **Rwy 31**, 400-2 or std. with a min. climb of 210' per NM to 2600.

## GWINNER, ND

GWINNER-ROGER MELROE FIELD (GWR)

ORIG 09183 (FAA)

TAKE-OFF MINIMUMS: **Rwys 6, 24**, NA-Environment.

**Rwy 34**, Std. w/ min. climb of 216' per NM to 2000, or 900-2½ for climb in visual conditions.

DEPARTURE PROCEDURE: **Rwy 34**, for climb in visual conditions, cross Gwinner-Roger Melroe Field at or above 2000, before proceeding on course.

NOTE: **Rwy 16**, terrain beginning 15' from DER, 73' right of centerline, 1257' MSL. **Rwy 34**, road and vehicle 436' from DER, on centerline, 15' AGL/1286' MSL.

## HAWLEY, MN

HAWLEY MUNI (04Y)

ORIG 07074 (FAA)

NOTE: **Rwy 34**, road 15' from departure end of runway, 421' left of centerline, 15' AGL/1224' MSL.

## HETTINGER, ND

HETTINGER MUNI (HEI)

AMDT 1 98225 (FAA)

TAKE-OFF MINIMUMS: **Rwy 12**, 300-1 or std. with a min. climb rate of 220' per NM to 3000. **Rwys 17, 35** NA.

## HIBBING, MN

CHISHOLM-HIBBING (HIB)

AMDT 6 04218 (FAA)

DEPARTURE PROCEDURE: **Rwy 22**, climb via heading 227° to 2200 before turning right. **Rwy 31**, climb via heading 310° to 2200 before turning left.

NOTE: **Rwy 4**, antenna on pole, 361' from departure end of runway, 409' right of centerline, 1377' MSL. **Rwy 13**, obstacle light on pole, 1184' from departure end of runway, 636' left of centerline. Numerous trees beginning 1291' from departure end of runway, 745' left of centerline up to 1419' MSL. Trees 1497' from departure end of runway, 563' right of centerline, 1388' MSL. **Rwy 22**, multiple trees beginning 368' from departure end of runway, 170' right of centerline, up to 1416' MSL. Multiple trees beginning 413' from departure end of runway, 117' left of centerline, up to 1400' MSL. **Rwy 31**, light standard, 865' from departure end of runway, 595' right of centerline, 1381' MSL.

## HILLSBORO, ND

HILLSBORO MUNI (3H4)

ORIG 97198 (FAA)

DEPARTURE PROCEDURE: **Rwys 16, 34**, climb runway heading to 2000 prior to turning westbound.

## HINCKLEY, MN

FIELD OF DREAMS (04W)

ORIG 08045 (FAA)

NOTE: **Rwy 6**, Tree 82' from departure end of runway, 480' right of centerline, 100' AGL/1114' MSL. Tree 143' from departure end of runway, 161' left of centerline, 100' AGL/1114' MSL. **Rwy 24**, Tree 48' from departure end of runway, 165' left of centerline, 100' AGL/1124' MSL.

## HOT SPRINGS, SD

HOT SPRINGS MUNI (HSR)

ORIG 97142 (FAA)

TAKE-OFF MINIMUMS: **Rwy 1**, 300-1 or std. with a min. climb of 360' per NM to 5000. **Rwy 19**, 300-2 or std. with a min. climb of 250' per NM to 5000.

DEPARTURE PROCEDURE: **Rwys 1, 19**, climb runway heading to 5000 before proceeding westbound.

## HURON, SD

HURON RGNL (HON)

AMDT 5 09239 (FAA)

NOTE: **Rwy 12**, trees and pole beginning 918' from DER, 525' left of centerline, up to 62' AGL/1341' MSL. Trees beginning 291' from DER, 234' right of centerline, up to 100' AGL/1389' MSL. **Rwy 17**, trees beginning 236' from DER, 307' left of centerline, up to 67' AGL/1346' MSL. Trees beginning 264' from DER, 262' right of centerline, 73' AGL/1352' MSL. **Rwy 30**, trees beginning 3428' from DER, 1378' left of centerline, up to 100' AGL/1394' MSL. **Rwy 35**, trees beginning 60' from DER, 104' left of centerline, up to 49' AGL/1328' MSL. Trees beginning 251' from DER, 97' right of centerline, 52' AGL/1331' MSL.

## INTERNATIONAL FALLS, MN

FALLS INTL (INL)

AMDT 3 08101 (FAA)

NOTE: **Rwy 4**, Tree 392' from departure end of runway 311' left of centerline, 51' AGL/1231' MSL. **Rwy 13**, multiple trees beginning 1999' from departure end of runway, 773' left of centerline, up to 63' AGL/1233' MSL. Pole 1091', from departure end of runway, 703' right of centerline, 37' AGL/1207' MSL. Road 1005' from departure end of runway, 766' left of centerline, 15' AGL/1195' MSL. **Rwy 22**, Multiple trees beginning 433' from departure end of runway 273' left of centerline, up to 33' AGL/1213' MSL. Trees 1144' from departure end of runway 136' right of centerline, 28' AGL/1208' MSL. **Rwy 31**, Trees 968' from departure end of runway, 752' left of centerline, 56' AGL/1236' MSL.

09295

## JACKSON, MN

JACKSON MUNI (MJQ)

ORIG 08045 (FAA)

TAKE-OFF MINIMUMS: **Rwys 4,22**, NA-TURF.

DEPARTURE PROCEDURE: **Rwy 13**, Climb heading 134° to 1900 before turning right.

NOTES: **Rwy 13**, Trees beginning 1474' from departure end of runway, 556' left of centerline, up to 80' AGL/1539' MSL. Vehicle on road 258' from departure end of runway, 559' from centerline, 15' AGL/1459' MSL. **Rwy 31**, Vehicle on road 465' from departure end of runway, 618' left of centerline, 15' AGL/1446' MSL. Trees beginning 1616' from departure end of runway, 580' right of centerline, up to 80' AGL/1519' MSL. Trees beginning 1110' from departure end of runway, 429' left of centerline, up to 80' AGL/1509' MSL.

## JAMESTOWN, ND

JAMESTOWN RGNL (JMS)

AMDT 1 07242 (FAA)

NOTE: **Rwy 22**, antenna and tank beginning 2960' from departure end of runway, 1007' left of centerline, up to 150' AGL/1631' MSL. **Rwy 31**, multiple trees beginning 2129' from departure end of runway 47' right of centerline, up to 60' AGL/1560' MSL.

## LITCHFIELD, MN

LITCHFIELD MUNI (LJF)

DEPARTURE PROCEDURE: **Rwys 13, 31**, climb to 1800 on runway heading before proceeding on course.

## LITTLE FALLS, MN

LITTLE FALLS/MORRISON COUNTY

CHARLES A. LINDBERGH FIELD (LXL)

AMDT 3 96172 (FAA)

TAKE-OFF MINIMUMS: **Rwy 13**, 300-1 or std. with a min. climb of 250' per NM to 1500. **Rwy 36**, 600-1½ or std. with a min. climb of 345' per NM to 1700.

DEPARTURE PROCEDURE: **Rwy 31**, climb to 1700 before turning.

## LONG PRAIRIE, MN

TODD FIELD (14Y)

ORIG 08157 (FAA)

NOTE: **Rwy 16**, tree 273' from departure end of runway, 310' right of centerline, 100' AGL/1436' MSL. **Rwy 34**, tree 70' from departure end of runway, 100' right of centerline, 100' AGL/1439' MSL. Tree 122' from departure end of runway, 105' left of centerline, 100' AGL/1436' MSL. Tree 18' from departure end of runway, 106' right of centerline, 100' AGL/1433' MSL.

## MANKATO, MN

MANKATO RGNL (MKT)

ORIG 09267 (FAA)

NOTE: **Rwy 4**, trees beginning 447' from DER, 408' right of centerline, up to 100' AGL/1078' MSL. Trees beginning 1996' from DER, 17' left of centerline, up to 100' AGL/1084' MSL. **Rwy 15**, trees beginning 1552' from DER, 719' left of centerline, up to 100' AGL/1088' MSL. **Rwy 22**, trees beginning 2370' from DER, 989' right of centerline, up to 100' AGL/1069' MSL. **Rwy 33**, trees beginning 2085' from DER, 780' right of centerline, up to 100' AGL/1077' MSL. Rising terrain 9' from DER, 65' right of centerline, up to 1029' MSL. Terrain beginning 82' from DER, 60' left of centerline, up to 1029' MSL.

## MARSHALL, MN

SOUTHWEST MINNESOTA RGNL MARSHALL/

RYAN FIELD (MML)

AMDT 2 08101 (FAA)

TAKE-OFF MINIMUMS: **Rwy 20**, Std. w/ min. climb of 270' per NM to 2000, or 1000-3 for climb in visual conditions.

DEPARTURE PROCEDURE: **Rwy 20**, for climb in visual conditions, cross Marshall Airport at or above 2000 MSL before proceeding on course.

NOTE: **Rwy 12**, Pole 706' from departure end of runway, 671' right of centerline, 60' AGL/1212' MSL, pole 1580' from departure end of runway, 732' left of centerline, 70' AGL/1225' MSL, antenna 1496' from departure end of runway, 620' right of centerline, 64' AGL/1219' MSL, pole 1185' from departure end of runway, 540' right of centerline, 55' AGL/1210' MSL, tree 3564' from departure end of runway, 400' right of centerline, 110' AGL/1269' MSL, tree 2135' from departure end of runway, 113' left of centerline, 77' AGL/1232' MSL. **Rwy 30**, Vehicle on road 1' from departure end of runway, 435' left of centerline, 24' AGL/1200' MSL.

## MILBANK, SD

MILBANK MUNI (1D1)

ORIG 08101 (FAA)

TAKE-OFF MINIMUMS: **Rwy 25**, Std. w/ a min. climb of 207' per NM to 1900, or 900-2½ for climb in visual conditions.

DEPARTURE PROCEDURE: **Rwy 25**, For climb in visual conditions cross Milbank Muni airport at or above 1900 before proceeding on course.

NOTE: **Rwy 7**, trees beginning 1207' from departure end of runway, 387' left of centerline, up to 100' AGL/1219' MSL. Vehicle on road 829' from departure end of runway, 373' right of centerline, 15' AGL/1134' MSL. Building 322' from departure end of runway, 582' right of centerline, 25' AGL/1134' MSL. **Rwy 13**, trees beginning 1448' from departure end of runway, 394' right of centerline, up to 100' AGL/1219' MSL. Vehicle on road 218' from departure end of runway, 490' left of centerline, 15' AGL/1134' MSL. Building 78' from departure end of runway, 397' left of centerline, 25' AGL/1134' MSL. **Rwy 25**, tree 3584' from departure end of runway, 477' left of centerline, 100' AGL/1249' MSL.

**Rwy 31**, tree 2992' from departure end of runway, 715' left of centerline, 100' AGL/1239' MSL.

## MILLER, SD

MILLER MUNI (MKA)

ORIG 08269 (FAA)

NOTE: **Rwy 15**, vehicle on road 769' from departure end of runway, 642' right of centerline, 15' AGL/1599' MSL. Snow removal equipment 206' from departure end of runway, 475' right of centerline, 21' AGL/1594' MSL. Tree 3903' from departure end of runway, 998' left of centerline, 100' AGL/1684' MSL. **Rwy 33**, vehicle on road 450' from departure end of runway, 560' left of centerline, 15' AGL/1584' MSL. Tree 762' from departure end of runway, 628' left of centerline, 100' AGL/1669' MSL.



09295

## MINNEAPOLIS, MN

ANOKA COUNTY-BLAINE AIRPORT  
(JANES FIELD) (ANE)

AMDT 4 07018 (FAA)

DEPARTURE PROCEDURE: **Rwy 9**, climb heading 089° to 2600 before turning right. **Rwy 18**, climb heading 179° to 2600 before turning left. **Rwy 27**, climb heading 269° to 1800 before proceeding southeast bound. **Rwy 36**, climb heading 359° to 1800 before proceeding southeast bound.

NOTE: **Rwy 9**, multiple trees 821' from departure end of runway, 619' right of centerline, up to 51' AGL/961' MSL. Tank 1.1 NM from departure end of runway, 1280' right of centerline, 170' AGL/1082' MSL. **Rwy 27**, multiple trees 559' from departure end of runway, 404' left of centerline, up to 50' AGL/946' MSL. Multiple trees 480' from departure end of runway, 394' right of centerline, up to 26' AGL/922' MSL. **Rwy 36**, multiple trees 191' from departure end of runway, 495' right of centerline, up to 78' AGL/971' MSL. Multiple trees 1458' from departure end of runway, 53' left of centerline, up to 59' AGL/958' MSL.

## CRYSTAL (MIC)

AMDT 2 81050 (FAA)

TAKE-OFF MINIMUMS: **Rwys 14L, 14R, 32L, 32R**, 300-1. **Rwys 24L, 24R**, 300-1 or std. with a min. climb of 215' per NM to 1000. **Rwys 6L, 6R**, 300-1 or std. with a min. climb of 285' per NM to 1000.

DEPARTURE PROCEDURE: **Rwys 6L, 6R, 14L, 14R**, eastbound departures (050°-130°) climb runway heading to 2800 before turning.

## FLYING CLOUD (FCM)

AMDT 4 08157 (FAA)

NOTE: **Rwy 10L**, multiple antenna's on hangar's beginning 270' from departure end of runway, 330' left of centerline, up to 26' AGL/932' MSL. Tree 682' from departure end of runway, 668' right of centerline, 26' AGL/932' MSL. **Rwy 10R**, multiple obstruction light on poles beginning 287' from departure end of runway, 345' right of centerline, up to 36' AGL/939' MSL. Hangar 150' from departure end of runway, 422' right of centerline, 21' AGL/920' MSL. Antenna on building, 536' from departure end of runway, 263' right of centerline, 14' AGL/913' MSL. **Rwy 18**, multiple trees beginning 338' from departure end of runway, 166' left of centerline, up to 62' AGL/961' MSL. Obstruction light on fence 176' from departure end of runway, 127' left of centerline, 10' AGL/910' MSL. Vehicle and road 198' from departure end of runway, 196' left of centerline, 15' AGL/918' MSL. Floodlight 148' from departure end of runway, 374' right of centerline, 38' AGL/938' MSL. Obstruction light on hangar 282' from departure end of runway, 317' right of centerline, 37' AGL/937' MSL. **Rwy 28R**, Hangar 259' from departure end of runway, 355' right of centerline, 18' AGL/931' MSL. **Rwy 36**, wind vane 923' from departure end of runway, 404' left of centerline, 61' AGL/960' MSL. Vent on building 943' from departure end of runway, 295' left of centerline, 44' AGL/943' MSL. Pole 714' from departure end of runway, 351' left of centerline, 33' AGL/932' MSL. Multiple trees beginning 504' from departure end of runway, 324' right of centerline, up to 67' AGL/966' MSL.

MINNEAPOLIS-ST. PAUL INTL  
(WOLD CHAMBERLAIN) (MSP)

AMDT 11 07130 (FAA)

TAKEOFF MINIMUMS: **Rwy 35**, std. with a min. climb of 219' per NM to 2100.

DEPARTURE PROCEDURE: **Rwy 4**, climb heading 043° to 2100 before turning left. **Rwy 30L**, climb heading 299° to 2100 before turning right. **Rwy 30R**, climb heading 299° to 2100 before turning right. **Rwy 35**, climb via heading 348° to 2100 before turning left.

NOTE: **Rwy 4**, multiple trees beginning 800' from departure end of runway, 264' left of centerline, up to 75' AGL/921' MSL. Rod on building 2528' from departure end of runway, 1175' left of centerline, 78' AGL/922' MSL. Fence 803' from departure end of runway, 585' left of centerline, 15' AGL/860' MSL. Antenna on OL building 456' from departure end of runway, 319' left of centerline, 13' AGL/850' MSL. Light poles 1932' from departure end of runway, 718' left of centerline, 45' AGL/885' MSL. Stack 4535' from departure end of runway, 481' left of centerline, 139' AGL/949' MSL. **Rwy 12R**, multiple trees beginning 1477' from departure end of runway, 407' left of centerline, up to 86' AGL/851' MSL. Multiple trees beginning 1426' from departure end of runway, 124' right of centerline, up to 111' AGL/847' MSL. Light pole 1408' from departure end of runway, 746' right of centerline, 85' AGL/843' MSL. Radar RFLTR 983' from departure end of runway, 32' left of centerline, 15' AGL/829' MSL. Pipe on building, 826' from departure end of runway, 576' left of centerline, 10' AGL/825' MSL. Obstruction light on localizer 766' from departure end of runway, on centerline, 7' AGL/821' MSL. **Rwy 17**, antenna 1272' from departure end of runway, 562' right of centerline, 57' AGL/891' MSL. Pole 409' from departure end of runway, 530' right of centerline, 29' AGL/866' MSL. WDI on building 2619' from departure end of runway, 881' left of centerline, 97' AGL/918' MSL. Building 2619' from departure end of runway, 859' left of centerline, 84' AGL/905' MSL. Light 1176' from departure end of runway, 291' right of centerline, 11' AGL/875' MSL. Tree 2619' from departure end of runway, on centerline, 79' AGL/900' MSL. **Rwy 22**, tree 2906' from departure end of runway, 833' right of centerline, 94' AGL/934' MSL. Hopper 1717' from departure end of runway, 456' left of centerline, 48' AGL/888' MSL. **Rwy 30L**, multiple trees beginning 1113' from departure end of runway, 701' left of centerline, up to 80' AGL/919' MSL. Tree 1230' from departure end of runway, 633' right of centerline, 30' AGL/877' MSL. Ground 28' from departure end of runway, 490' right of centerline, 0' AGL/844' MSL. **Rwy 30R**, building 1056' from departure end of runway, 198' left of centerline, 13' AGL/853' MSL. Multiple trees beginning 3010' from departure end of runway, 334' left of centerline, up to 94' AGL/940' MSL. Light pole 1849' from departure end of runway, 698' right of centerline, 17' AGL/871' MSL. Fence 1327' from departure end of runway, 667' right of centerline, 8' AGL/857' MSL. Tree 3703' from departure end of runway, 350' right of centerline, 67' AGL/914' MSL. Rod on pole 3143' from departure end of runway, 47' right of centerline, 38' AGL/898' MSL. **Rwy 35**, tree 175' from departure end of runway, 398' right of centerline, 73' AGL/883' MSL. Multiple trees beginning 1989' from departure end of runway, 351' left of centerline, up to 65' AGL/902' MSL. Multiple buildings beginning 5.45 NM from departure end of runway, 1787' left of centerline, up to 811' AGL/1743' MSL.





## MINOT, ND

MINOT INTL (MOT)

AMDT 3 06103 (FAA)

TAKE-OFF MINIMUMS: **Rwy 26**, 300-1½ or std. with a min. climb of 219' per NM to 2000.

DEPARTURE PROCEDURE: **Rwy 13**, climb via heading 128° to 2200 before turning right. **Rwy 26**, climb via heading 260° to 2300 before turning left.

NOTE: **Rwy 8**, tree 1801' from departure end of runway, 292' left of centerline, 56' AGL/1714' MSL. Tree 1459' from departure end of runway, 528' left of centerline, 47' AGL/1705' MSL. **Rwy 26**, tree 1750' from departure end of runway, 618' right of centerline, 71' AGL/1786' MSL. Tree 1829' from departure end of runway, 376' left of centerline, 65' AGL/1780' MSL. Light pole 1110' from departure end of runway, 610' left of centerline, 44' AGL/1759' MSL. Tank 1.1 NM from departure end of runway, 1810' right of centerline, 184' AGL/1899' MSL. Tree 1782' from departure end of runway, 273' right of centerline, 49' AGL/1764' MSL. Light pole 1294' from departure end of runway, 452' right of centerline, 29' AGL/1751' MSL. Tree 2019' from departure end of runway, 393' right of centerline, 54' AGL/1769' MSL. Building 1431' from departure end of runway, 301' right of centerline, 38' AGL/1753' MSL. Light pole 1418' from departure end of runway, 23' right of centerline, 36' AGL/1751' MSL.

## MITCHELL, SD

MITCHELL MUNI (MHE)

AMDT 1 86240 (FAA)

DEPARTURE PROCEDURE: **Rwys 12, 17**, climb to 1800 before turning.

## MOBRIDGE, SD

MOBRIDGE MUNI (MBG)

ORIG 88154 (FAA)

TAKE-OFF MINIMUMS: **Rwy 35**, 300-1.

DEPARTURE PROCEDURE: **Rwys 12, 17, 30, 35**, climb runway heading to 2500 before turning on course.

## MONTEVIDEO, MN

MONTEVIDEO-CHIPPEWA COUNTY (MVE)

TAKE-OFF MINIMUMS: **Rwy 21**, 400-1½.

DEPARTURE PROCEDURE: **Rwy 14**, climb runway heading to 1500 before turning.

## MOOSE LAKE, MN

MOOSE LAKE CARLTON COUNTY (MZH)

ORIG 94006 (FAA)

TAKE-OFF MINIMUMS: **Rwys 4, 22**, 300-1.

## MORRIS, MN

MORRIS MUNI-CHARLIE SCHMIDT FLD (MOX)

ORIG 08045 (FAA)

TAKE-OFF MINIMUMS: **Rwys 4, 22**, NA-Environmental.

NOTE: **Rwy 32**, Trees 2888' from departure end of runway, 1125' left of centerline, 100' AGL/1209' MSL.

## OAKES, ND

OAKES MUNI (2D5)

ORIG 97142 (FAA)

TAKE-OFF MINIMUMS: **Rwy 30**, 300-1 or std. with a min. climb of 260' per NM to 1700.

## OLIVIA, MN

OLIVIA RGNL (OVL)

AMDT 1 86044 (FAA)

TAKE-OFF MINIMUMS: **Rwy 11**, 300-1.

## ORR, MN

ORR RGNL (ORB)

AMDT 1 80136 (FAA)

TAKE-OFF MINIMUMS: **Rwy 13**, 500-2 or std. with a min. climb of 260' per NM to 1900.

## ORTONVILLE, MN

ORTONVILLE MUNI-MARTINSON FIELD (VVV)

ORIG 81274 (FAA)

TAKE-OFF MINIMUMS: **Rwy 16**, 300-1 or std. with a min. climb of 210' per NM to 1300.

## OWATONNA, MN

OWATONNA DEGNER RGNL (OWA)

AMDT 2 97030 (FAA)

DEPARTURE PROCEDURE: **Rwy 12**, climb runway heading to 1500 before turning on course.

## PEMBINA, ND

PEMBINA MUNI (PMB)

ORIG 85325 (FAA)

DEPARTURE PROCEDURE: **Rwy 33**, climb runway heading 3200 before turning left.

## PERHAM, MN

PERHAM MUNI (16D)

ORIG 98113 (FAA)

TAKE-OFF MINIMUMS: **Rwy 12**, 500-2 or std. with a min. climb of 210' per NM to 2000. **Rwy 30**, 400-1 or std. with a min. climb of 270' per NM to 1800.

DEPARTURE PROCEDURE: **Rwy 12**, climb runway heading to 2000 before proceeding on course.

**Rwy 30**, climb runway heading to 1800 before proceeding on course.

## PIERRE, SD

PIERRE RGNL (PIR)

AMDT 2 85115 (FAA)

TAKE-OFF MINIMUMS: **Rwy 25**, 300-1.

## PINE RIDGE, SD

PINE RIDGE (IEN)

ORIG 97226 (FAA)

TAKE-OFF MINIMUMS: **Rwy 12**, 300-1 or std. with a min. climb of 350' per NM to 3600. **Rwy 24**, 300-1 or std. with a min. climb of 220' per NM to 3500. **Rwy 30**, 300-1 or std. with a min. climb of 300' per NM to 3600.

**PIPESTONE, MN**

PIPESTONE MUNI (PQN)

ORIG 08045 (FAA)

TAKE-OFF MINIMUMS: **Rwys 9,27**, NA-Environmental.NOTE: **Rwy 18**, Trees beginning 381' from departure end of runway, 854' right of centerline, up to 100' AGL/1859' MSL.**PRESTON, MN**

FILLMORE COUNTY (FKA)

ORIG 98113 (FAA)

TAKE-OFF MINIMUMS: **Rwys 11,29**, 300-1.**PRINCETON, MN**

PRINCETON MUNI (PNM)

AMDT 1 05132 (FAA)

NOTE: **Rwy 15**, trees 982' from departure end of runway, 335' right of centerline, 50' AGL/1029' MSL. Trees 1449' from departure end of runway, 387' left of centerline, 50' AGL/1029' MSL. **Rwy 33**, barn 1159' from departure end of runway, 780' right of centerline, 50' AGL/1139' MSL, multiple trees, terrain, and road beginning 36' from departure end of runway, 84' right of centerline, up to 50' AGL/1045' MSL.**RAPID CITY, SD**

RAPID CITY RGNL (RAP)

AMDT 6 07130 (FAA)

DEPARTURE PROCEDURE: **Rwy 5**, climb on heading between 255° clockwise to 210° from departure end of runway, or min. climb of 240' per NM to 8800 for all other courses. **Rwy 14**, climb on heading between 325° clockwise to 210° from departure end of runway, or min. climb of 245' per NM to 8900 for all other courses. **Rwy 23**, climb on heading between 210° counter clockwise to 055° from departure end of runway, or min. climb of 268' per NM to 8900 for all other courses. **Rwy 32**, climb on heading between 255° clockwise to 140° from departure end of runway, or min. climb of 242' per NM to 8800 for all other courses.NOTE: **Rwy 5**, fence 133' from departure end of runway, 249' left of centerline, 10' AGL/3215' MSL. **Rwy 23**, hangar 201' from departure end of runway, 299' left of centerline, 24' AGL/3193' MSL. Fence 334' from departure end of runway, 256' right of centerline, 10' AGL/3184' MSL. **Rwy 32**, obstruction light 662' from departure end of runway, 243' left of centerline, 54' AGL/3213' MSL. Fence 1002' from departure end of runway, 751' right of centerline, 10' AGL/3233' MSL. Tower 1.9 NM from departure end of runway, 3503' right of centerline, 152' AGL/3520' MSL.**RAY S. MILLER AAF (KRYM)**

CAMP RIPLEY, MN . . . . . AMDT 2, 09155

TAKE-OFF OBSTACLES: **Rwy 13**, Terrain 1270' MSL, 73' from DER, 8' left and right of centerline. Vehicle 15' AGL/1180' MSL, 765' from DER, 638' left of centerline. **Rwy 31**, Terrain 1273' MSL, 54' from DER, 9' left and right of centerline. Trees 64' AGL/1282' MSL, 798' from DER, 325' left and right of centerline.**RED WING, MN**

RED WING RGNL (RGK)

AMDT 1 01137 (FAA)

DEPARTURE PROCEDURE: **Rwy 9**, 700-4 or std. with a min. climb of 270' per NM to 1700.**REDWOOD FALLS, MN**

REDWOOD FALLS MUNI (RWF)

ORIG 09071 (FAA)

TAKE-OFF MINIMUMS: **Rwys 5,23**, NA-Environmental. NOTE: **Rwy 12**, numerous buildings beginning 388' from DER, 376' right of centerline, up to 13' AGL/1052' MSL. Numerous fences beginning 6' from DER, 329' right of centerline, up to 13' AGL/1052' MSL. Tree 62' from DER, 444' left of centerline, 11' AGL/1040' MSL. **Rwy 30**, multiple trees beginning 865' from DER, 401' right of centerline, up to 100' AGL/1119' MSL. Vehicle on road 128' from DER, 306' right of centerline, 15' AGL/1027' MSL.**ROCHESTER, MN**

ROCHESTER INTL (RST)

ORIG 09015 (FAA)

NOTE: **Rwy 2**, road 73' from departure end of runway, 385' right of centerline, 10' AGL/1292' MSL. Tree 4377' from departure end of runway, 1132' right of centerline, 100' AGL/1399' MSL. Road 268' from departure end of runway, 366' right of centerline, 10' AGL/1290' MSL. **Rwy 13**, tree 1498' from departure end of runway, 840' right of centerline, 44' AGL/1348' MSL. **Rwy 20**, pole 259' from departure end of runway, 407' right of centerline, 23' AGL/1338' MSL. Roads beginning 1' from departure end of runway, 231' right of centerline, up to 10' AGL/1327' MSL. **Rwy 31**, tree 4760' from departure end of runway, 1103' left of centerline, 100' AGL/1389' MSL.**ROSEAU, MN**

ROSEAU MUNI-RUDY BILLBERG FIELD (ROX)

ORIG 07242 (FAA)

NOTE: **Rwy 16**, building 258' from departure end of runway, 505' right of centerline, 24' AGL/1078' MSL. Tree 1582' from departure end of runway, 337' left of centerline, 47' AGL/1101' MSL. **Rwy 34**, truck on road 41' from departure end of runway, 511' left of centerline, 15' AGL/1069' MSL.**RUSHFORD, MN**

RUSHFORD MUNI (55Y)

AMDT 1 96228 (FAA)

TAKE-OFF MINIMUMS: **Rwy 34**, 300-1 or std. with a min. climb of 300' per NM to 1500.DEPARTURE PROCEDURE: **Rwy 16**, climb runway heading to 1700 before turning eastbound.

## ST. CLOUD, MN

ST. CLOUD RGNL (STC)

ORIG 09239 (FAA)

TAKE-OFF MINIMUMS: **Rwy 5**, 300-1¼ or std. w/ min. climb of 201' per NM to 1300 or alternatively, with standard take-off minimums and a normal 200'/NM climb gradient, take-off must occur no later than 1100' prior to DER.

NOTE: **Rwy 5**, tower 6201' from DER, 1416' left of centerline, 149' AGL/1179' MSL. Multiple trees beginning 17' from DER, 373' right of centerline, up to 59' AGL/1081' MSL. Multiple trees beginning 1752' from DER, 56' left of centerline, up to 80' AGL/1102' MSL. **Rwy 13**, tree 1654' from DER, 884' right of centerline, 61' AGL/1078' MSL. Tree 1265' from DER, 794' left of centerline, 42' AGL/1059' MSL. **Rwy 23**, trees 2109' from DER, 29' right of centerline, up to 61' AGL/1082' MSL. Trees 1725' from DER, 93' left of centerline, up to 55' AGL/1076' MSL. Fence 74' from DER, 216' left of centerline, 2' AGL, 1023' MSL. **Rwy 31**, terrain beginning 29' from DER, 50' right of centerline, up to 1083' MSL. Terrain beginning 107' from DER, 7' left of centerline, up to 1060' MSL.

## ST. JAMES, MN

ST. JAMES MUNI (JYG)

ORIG 94342 (FAA)

DEPARTURE PROCEDURE: **Rwy 15**, climb to 1900 before turning eastbound.

## ST. PAUL MN

LAKE ELMO (21D)

ORIG 80318 (FAA)

TAKE-OFF MINIMUMS: **Rwy 22**, 300-1 or std. with a min. climb of 225' per NM to 1100.

## ST. PAUL DOWNTOWN HOLMAN FIELD (STP)

AMDT 7 08157 (FAA)

TAKE-OFF MINIMUMS: **Rwy 9**, std. w/ min. climb of 346' per NM to 1500. **Rwy 13**, std. w/ min. climb of 266' per NM to 1500. **Rwy 14**, std. w/ min. climb of 216' per NM to 1500. **Rwy 27**, std. w/ min. climb of 436' per NM to 1500. **Rwy 31**, NA - obstacles. **Rwy 32**, std. w/ min. climb of 340' per NM to 3000.

DEPARTURE PROCEDURE: **Rwy 9**, climb heading 088° to 1500 before proceeding on course. **Rwy 13**, climb heading 125° to 1500 before proceeding on course. **Rwy 14**, climb heading 143° to 1500 before proceeding on course. **Rwy 27**, climb heading 268° to 1700 before proceeding on course. **Rwy 32**, climb heading 323° to 1300 before proceeding on course.

NOTE: **Rwy 9**, multiple trees beginning 1265' from departure end of runway, 167' right of centerline, up to 75' AGL/1055' MSL. Multiple trees beginning 1.1 NM from departure end of runway, 124' left of centerline, up to 100' AGL/1099' MSL. Obstruction light tank 1571' from departure end of runway, 771' right of centerline, 50' AGL/811' MSL. Mobile crane 1163' from departure end of runway, 123' left of centerline, 50' AGL/758' MSL. **Rwy 13**, Obstruction light stack 2695' from departure end of runway, 842' right of centerline, 50' AGL/820' MSL. Tree 1563' from departure end of runway, 25' right of centerline, 61' AGL/748' MSL. Multiple trees beginning 1004' from departure end of runway, 607' left of centerline, 50' AGL/767' MSL. Tower 1,725' from

## ST. PAUL DOWNTOWN HOLMAN FIELD

(STP) (CON'T)

departure end of runway, 930' left of centerline, 47' AGL/753' MSL. Vent on building 3029' from departure end of runway, 629' right of centerline, 10' AGL/783' MSL. Multiple bushes beginning 194' from departure end of runway 88' left of centerline, 7' AGL/712' MSL. Stack 1,879' from departure end of runway, 25' left of centerline, 51' AGL/751' MSL. **Rwy 14**, multiple trees beginning 805' from departure end of runway, 2' right of centerline, up to 112' AGL/811' MSL. Multiple trees beginning 1205' from departure end of runway, 64' left of centerline, up to 80' AGL/770' MSL. Poles 2810' from departure end of runway 715' right of centerline, 91' AGL/778' MSL. **Rwy 27**, multiple trees beginning 803' from departure end of runway, 122' left of centerline, up to 100' AGL/994' MSL. Tree 783' from departure end of runway, 105' right of centerline, 25' AGL/725' MSL. Obstruction light antenna 996' from departure end of runway, 304' right of centerline, 67' AGL/767' MSL. Light pole 1328' from departure end of runway, 222' left of centerline, 50' AGL/747' MSL. Building 2049' from departure end of runway, 837' right of centerline, 57' AGL/761' MSL. Flagpole 2333' from departure end of runway, 199' left of centerline, 78' AGL/778' MSL. Stack 1.8 NM from departure end of runway, 635' left of centerline, 569' AGL/1279' MSL.

**Rwy 32**, road and vehicle 211' from departure end of runway, 482' left of centerline, 17' AGL/717' MSL. Railroad beginning 369' from departure end of runway, 329' left of centerline, up to 23' AGL/727' MSL. Pipe on DME 383' from departure end of runway, 269' right of centerline, 17' AGL/722' MSL. Tree 1152' from departure end of runway, 209' left of centerline, 44' AGL/744' MSL. Tree 1685' from departure end of runway, 277' right of centerline, 75' AGL/770' MSL. Sign 5668' from departure end of runway, 1924' left of centerline, 86' AGL/874' MSL. Trees 5614' from departure end of runway, 1796' right of centerline, 100' AGL/939' MSL. Building 5779' from departure end of runway, 1733' right of centerline, 72' AGL/910' MSL. Pole 1.0 NM from departure end of runway, 1835' right of centerline, 157' AGL/973' MSL. Building 1.1 NM from departure end of runway, 2170' left of centerline, 122' AGL/886' MSL. Multiple buildings beginning 1.1 NM from departure end of runway, 378' left of centerline, up to 142' AGL/918' MSL.

## SILVER BAY, MN

SILVER BAY MUNI (BFW)

ORIG 93035 (FAA)

TAKE-OFF MINIMUMS: **Rwys 7, 25**, 300-1.

## SIoux FALLS, SD

JOE FOSS FIELD (FSD)

AMDT 7 07242 (FAA)

TAKE-OFF MINIMUMS: **Rwy 15**, 200-1 or std. w/ min. climb of 404' per NM to 1700. **Rwy 33**, 200-1½ or std. w/ min. climb of 343' per NM to 1700.

DEPARTURE PROCEDURE: **Rwy 3**, climb heading 030° to 2300 before turning eastbound. **Rwy 9**, climb heading 098° to 2000, then left turn direct FSD VORTAC. **Rwy 15**, climb heading 150° to 2000, then right turn direct FSD VORTAC. **Rwy 21**, climb heading 210° to 2200 before turning eastbound. **Rwy 27**, climb heading 278° to 2100 before turning eastbound. **Rwy 33**, climb heading 330° to 2200 before turning eastbound.

NOTE: **Rwy 9**, antenna 2238' from departure end of runway, 919' right of centerline, 87' AGL/1506' MSL. Pole 1256' from departure end of runway, 23' left of centerline, 43' AGL/1464' MSL. Windsock 331' from departure end of runway, 582' right of centerline, 14' AGL/1433' MSL. **Rwy 15**, antenna 3056' from departure end of runway, 983' left of centerline 117' AGL/1576' MSL. Multiple trees beginning 1211' from departure end of runway, 471' left of centerline, up to 38' AGL/1477' MSL. Tower 3102' from departure end of runway, 972' left of centerline, 61' AGL/1520' MSL. Trees and pole beginning 1746' from departure end of runway, 316' right of centerline, up to 87' AGL/1516' MSL. **Rwy 21**, multiple trees beginning 428' from departure end of runway, 522' right of centerline, up to 75' AGL/1497' MSL. **Rwy 27**, multiple trees beginning 2528' from departure end of runway, 1027' left of centerline, up to 100' AGL/1509' MSL. **Rwy 33**, 2 lighted radio towers 3639' from departure end of runway, 894' left of centerline, 88' AGL/1585' MSL, multiple trees beginning 5370' from departure end of runway, 891' left of centerline, up to 175' AGL/1603' MSL, pole 5724' from departure end of runway, 1701' left of centerline, 45' AGL/1594' MSL.

## SPEARFISH, SD

BLACK HILLS-CLYDE ICE FIELD (SPF)

TAKE-OFF MINIMUMS: **Rwys 3, 8, 21, 35**, 700-2 (NA at night.). **Rwy 13**, 900-2 or std. with a min. climb of 300' per NM to 5400. **Rwy 17**, NA. **Rwys 26, 31**, 700-2 or std. with a min. climb of 370' per NM to 4700.

DEPARTURE PROCEDURE: **Rwys 3, 8**, turn left. Climb to 6500, intercept the 046° bearing outbound from SPF NDB. Thence... **Rwy 13**, climb runway heading to 4300, then climbing left turn to 6500 via heading 360° to intercept the 046° bearing outbound from SPF NDB. Thence... **Rwys 21, 35**, turn right. Climb to 6500 intercept the 046° bearing outbound from SPF NDB. Thence... **Rwy 26**, climbing right turn to 6500 via heading 330°, intercept the 297° bearing outbound from SPF NDB. Thence... **Rwy 31**, after take-off, intercept 297° bearing outbound from SPF NDB. Climb to 6500. Thence... THENCE... Continue climb to enroute MEA's before proceeding on course.

## STAPLES, MN

STAPLES MUNI (SAZ)

AMDT 2 87211 (FAA)

TAKE-OFF MINIMUMS: **Rwy 14**, 400-2.

## STURGIS, SD

STURGIS MUNI (49B)

ORIG 96284 (FAA)

DEPARTURE PROCEDURE: **Rwy 11**, climb runway heading to 6000, then direct RAP VORTAC.

**Rwy 29**, climb runway heading to 5000, then climbing right turn to 6000 direct RAP VORTAC.

## THIEF RIVER FALLS, MN

THIEF RIVER FALLS RGNL (TVF)

ORIG 09071 (FAA)

NOTE: **Rwy 3**, trees beginning 3058' from DER, 678' right of centerline, up to 100' AGL/1229' MSL. **Rwy 13**, trees beginning 565' from DER, 372' left of centerline, up to 100' AGL/1214' MSL. Trees beginning 1337' from DER, 531' right of centerline, up to 100' AGL/1209' MSL. **Rwy 21**, trees beginning 214' from DER, 544' right of centerline, up to 100' AGL/1204' MSL. Trees beginning 2185' from DER, 33' left of centerline, up to 100' AGL/1209' MSL. **Rwy 31**, trees beginning 126' from DER, 410' right of centerline, up to 100' AGL/1214' MSL. Trees beginning 199' from DER, 413' left of centerline, up to 100' AGL/1209' MSL. Trees beginning 1204' from DER, 449' right of centerline, up to 100' AGL/1199' MSL. Trees beginning 1579' from DER, 495' left of centerline, up to 100' AGL/1214' MSL.

## TIOGA, ND

TIOGA MUNI (D60)

ORIG 09239 (FAA)

TAKE-OFF MINIMUMS: **Rwys 3, 21**, NA- Environmental.

NOTE: **Rwy 12**, vehicle on road 1243' from DER, 78' left of centerline, 15' AGL/2304' MSL. Vehicle on road, tree and pole beginning 618' from DER, 50' right of centerline, up to 100' AGL/2419' MSL. Ground 21' from DER, 481' right of centerline, 2272' MSL. **Rwy 30**, vehicle on road 1' from DER, 144' left of centerline, 15' AGL/2256' MSL.

## TOWER, MN

TOWER MUNI (12D)

ORIG 09127 (FAA)

TAKE-OFF MINIMUMS: **Rwy 8**, NA - Obstacles.

NOTE: **Rwy 26**, tree 2315' from DER, 700' right of centerline, 100' AGL/1479' MSL.

## VERMILLION, SD

HAROLD DAVIDSON FIELD (VMR)

AMDT 1 09239 (FAA)

NOTE: **Rwy 12**, road 1' from DER, 200' right of centerline, up to 15' AGL/1156' MSL. Multiple trees beginning 541' from DER, 366' right of centerline, up to 62' AGL/1202' MSL. **Rwy 30**, road 79' from DER 342' left of centerline 15' AGL/1155' MSL. Road 200' from DER, 450' right of centerline, 15' AGL/1160' MSL. Fence 199' from DER, 347' left of centerline, 6' AGL/1150' MSL.

## WAHPETON, ND

HARRY STERN (BWP)

ORIG 93259 (FAA)

TAKE-OFF MINIMUMS: **Rwy 3**, 300-1.



## WARREN, MN

WARREN MUNI (D37)

ORIG 02108 (FAA)

DEPARTURE PROCEDURE: **Rwy 30**, climb  
runway heading to 1400 before turning on course.

## WARROAD, MN

WARROAD INTL MEMORIAL (RRT)

ORIG 08101 (FAA)

TAKE-OFF MINIMUMS: **Rwys 4, 22**, NA-  
Environmental.

## WASECA, MN

WASECA MUNI (ACQ)

ORIG 09015 (FAA)

NOTE: **Rwy 15**, tree 560' from departure end of  
runway, 560' right of centerline, 100' AGL/1239'  
MSL. Terrain beginning 172' from departure end of  
runway, on centerline, up to 1149' MSL. **Rwy 33**,  
tree 5042' from departure end of runway, 1533' right  
of centerline, 100' AGL/1259' MSL.

## WATERTOWN, SD

WATERTOWN RGNL (ATY)

ORIG 07242 (FAA)

NOTE: **Rwy 12**, tree 2015' from departure end of  
runway, 328' right of centerline, 100' AGL/1783'  
MSL. **Rwy 30**, trees 2149' from departure end of  
runway, 10' right of centerline, 51' AGL/1810' MSL.  
Tree 2200' from departure end of runway, 441' left of  
centerline, 70' AGL/1810' MSL. Tree 2082' from  
departure end of runway, 121' right of centerline, 55'  
AGL/1806' MSL.

## WATFORD CITY, ND

WATFORD CITY MUNI (S25)

ORIG 98225 (FAA)

TAKE-OFF MINIMUMS: **Rwy 30**, 400-1 or std. with  
a min. climb of 340' per NM to 2600. **Rwy 12**, 300-1  
or std. with a min climb of 300' per NM to 2600.

## WHEATON, MN

WHEATON MUNI (ETH)

AMDT 1 92177 (FAA)

TAKE-OFF MINIMUMS: **Rwy 16**, 300-1. **Rwys 4**,  
**22**, NA.

## WILLISTON, ND

SLOULIN FIELD INTL (ISN)

AMDT 3 00251 (FAA)

TAKE-OFF MINIMUMS: **Rwy 29**, 300-1 or std. with a  
min. climb of 270' per NM to 2300.

DEPARTURE PROCEDURE: **Rwy 20**, climb runway  
heading to 2300 before turning westbound.

## WILLMAR, MN

WILLMAR MUNI-JOHN L. RICE FIELD

(BDH)

ORIG 06327 (FAA)

NOTE: **Rwy 31**, tree 1338' from departure end of  
runway, 740' left of centerline, 67' AGL/1193'  
MSL.

## WINNER, SD

WINNER RGNL (ICR)

AMDT 3 09127 (FAA)

TAKE-OFF MINIMUMS: **Rwys 3, 21**, NA-  
Environmental.

## WINONA, MN

WINONA MUNI-MAX CONRAD FIELD

(ONA)

AMDT 3 96228 (FAA)

TAKE-OFF MINIMUMS: **Rwy 12**, 300-1 or std.  
with a min. climb of 320' per NM to 800. **Rwy 17**,  
600-1 or std. with a min. climb of 500' per NM to  
1300. **Rwy 30**, 500-1 or std. with a min. climb of  
500' per NM to 1200. **Rwy 35**, 700-1 or std. with  
a min. climb of 390' per NM to 1500.

DEPARTURE PROCEDURE: **Rwy 12**, climb to  
1900 via ONA R-110 before turning. **Rwys 17**,  
**30, 35**, climb runway heading to 1900 before  
turning.

## WORTHINGTON, MN

WORTHINGTON MUNI (OTG)

AMDT 2 88154 (FAA)

TAKE-OFF MINIMUMS: **Rwy 17**, 300-1.  
DEPARTURE PROCEDURE: **Rwys 11, 17, 29**,  
**35**, when weather is below 800-1 climb runway  
heading to 2400 before turning.

## YANKTON, SD

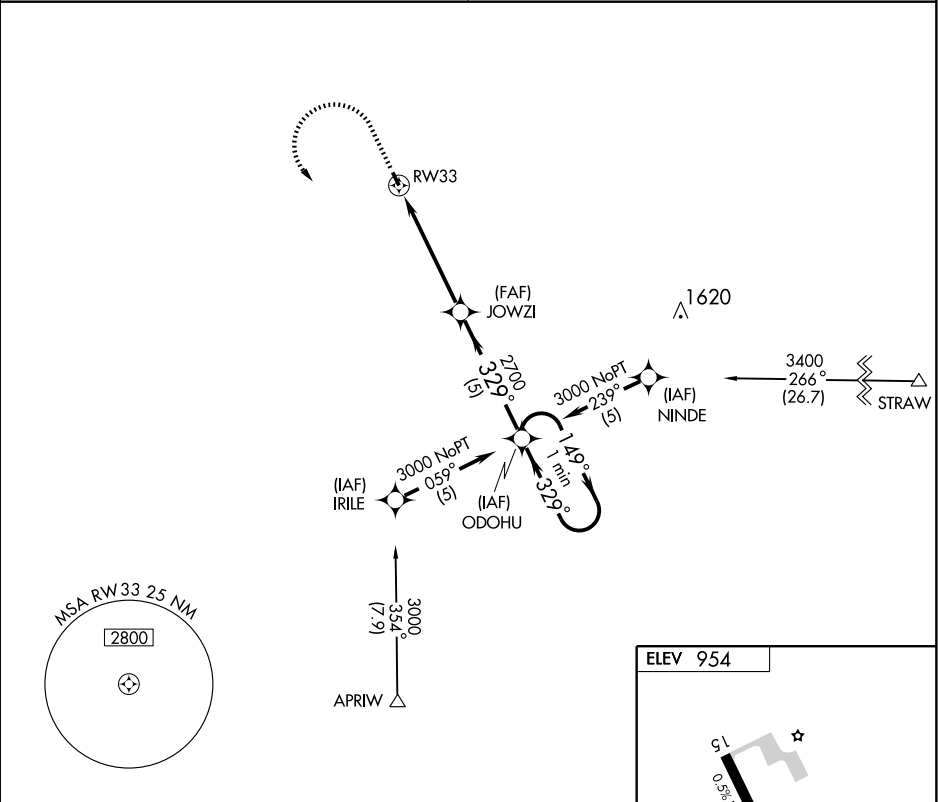
CHAN GURNEY MUNI (YKN)

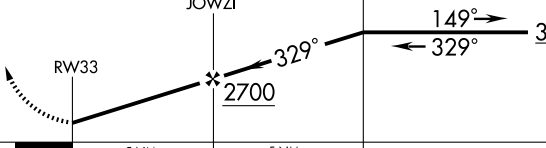
AMDT 2 85003 (FAA)

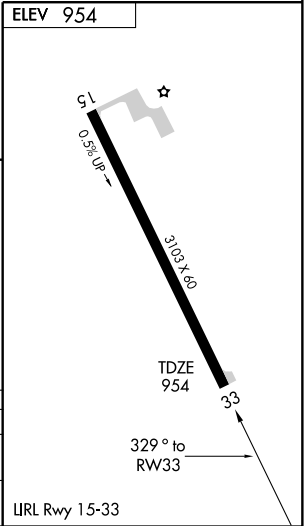
TAKE-OFF MINIMUMS: **Rwy 31**, 300-1.  
DEPARTURE PROCEDURE: **Rwys 1, 13, 19**,  
**31**, climb runway heading to 2400 before  
turning.

APP CRS 329°	Rwy Idg TDZE Apt Elev	3103 954 954
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▲ NA Use Hector Intl, ND altimeter setting.	MISSED APPROACH: Climb to 2000, then climbing left turn to 3000 direct ODOHU WP and hold.
FARGO APP CON★ 120.4 377.15	CTAF 122.9



<div>2000</div> <div>↑</div>	<div>3000</div> <div>↷</div>	<div>ODOHU</div> <div>✦</div>	<div>One Minute Holding Pattern</div>	
				
CATEGORY	A	B	C	D
S-33	1480-1	526 (600-1)	1480-1½ 526 (600-1½)	NA
CIRCLING	1480-1	526 (600-1)	1480-1½ 526 (600-1½)	NA



NDB AIT	APP CRS	Rwy Idg	4018
397	165°	TDZE	1205
		Apt Elev	1205

NDB or GPS RWY 16

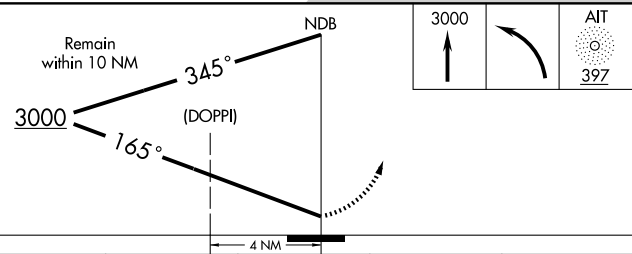
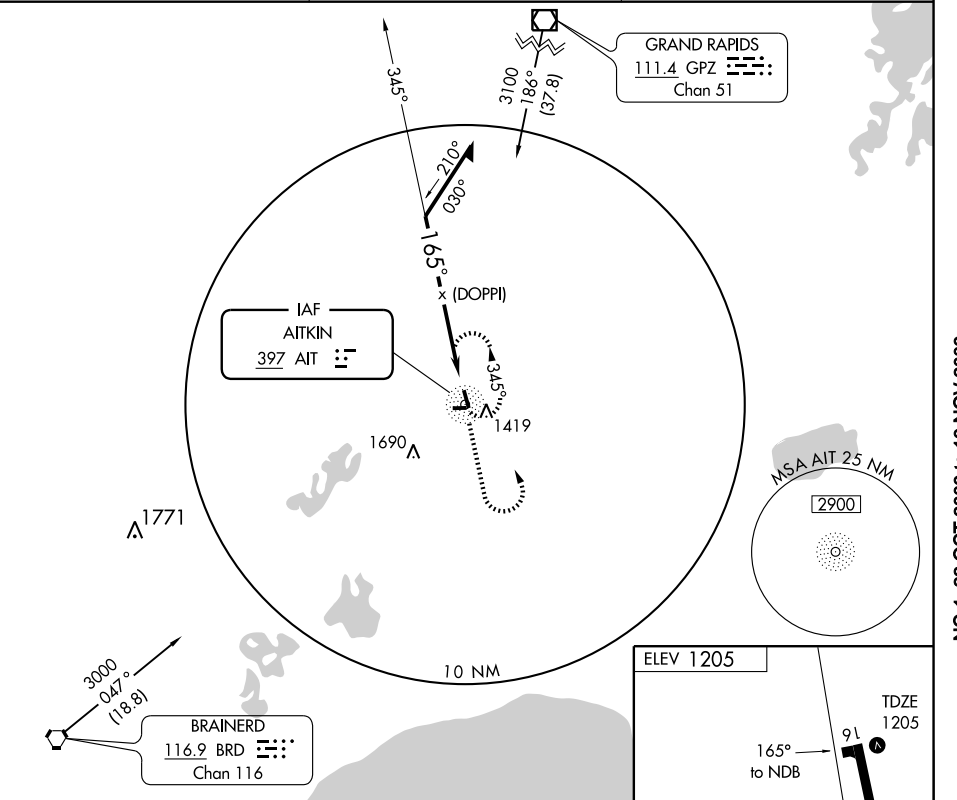
AITKIN MUNI-STEVE KURTZ FIELD (AIT)

▼

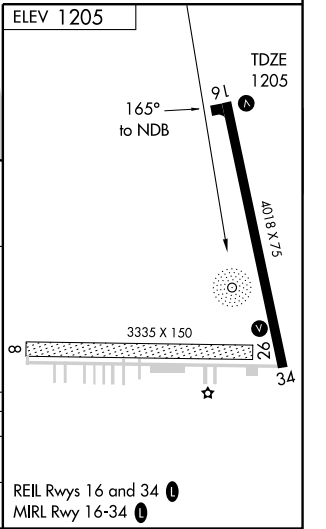
▲ NA

MISSED APPROACH: Climb to 3000 then left turn direct AIT NDB and hold.

AWOS-3 118.675	MINNEAPOLIS CENTER 118.05 239.0	UNICOM 123.05 (CTAF) 1
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CATEGORY	A	B	C	D
S-16	1840-1	635 (700-1)	1840-1¾ 635 (700-1¾)	NA
CIRCLING	1840-1	635 (700-1)	1840-1¾ 635 (700-1¾)	NA



⚠

Baro-VNAV NA when using Austin Muni altimeter setting.

⚠

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (114°F). Visibility reduction for helicopters NA.

If local altimeter setting not received, use Austin Muni altimeter setting and increase all DAs 48 feet and all MDAs 60 feet.

VDP NA when using Austin Muni altimeter setting. DME/DME RNP-0.3 NA.

MISSED APPROACH: Climb to 2900 direct YEDUT and hold.

AWOS-3

109.8

ROCHESTER APP CON\*

119.8 251,125

UNICOM

123.0 (CTAF) 0

5 NM Holding Pattern		VGSI and RNAV glidepath not coincident.		2900	YEDUT
				↑	✦
				*LNAV only	
2900 ← 343°		163° →		2900	
GS 3.00°		TCH 40		*1860	
		6.1 NM		3.2 NM	0.6
				1.2	1.2
CATEGORY	A	B	C	D	
LPV DA	1510-1		250 (300-1)		
LNAV/VNAV DA	1592-1¼		332 (400-1¼)		
LNAV MDA	1700-1	440 (500-1)	1700-1¼ 440 (500-1¼)	1700-1½ 440 (500-1½)	
CIRCLING	1780-1	520 (600-1)	1780-1½ 520 (600-1½)	1820-2 560 (600-2)	

MIRL Rwy 16-34 0

REIL Rwy 16 and 34 0

NC-1: 22 OCT 2009 to 19 NOV 2009



▼

NA

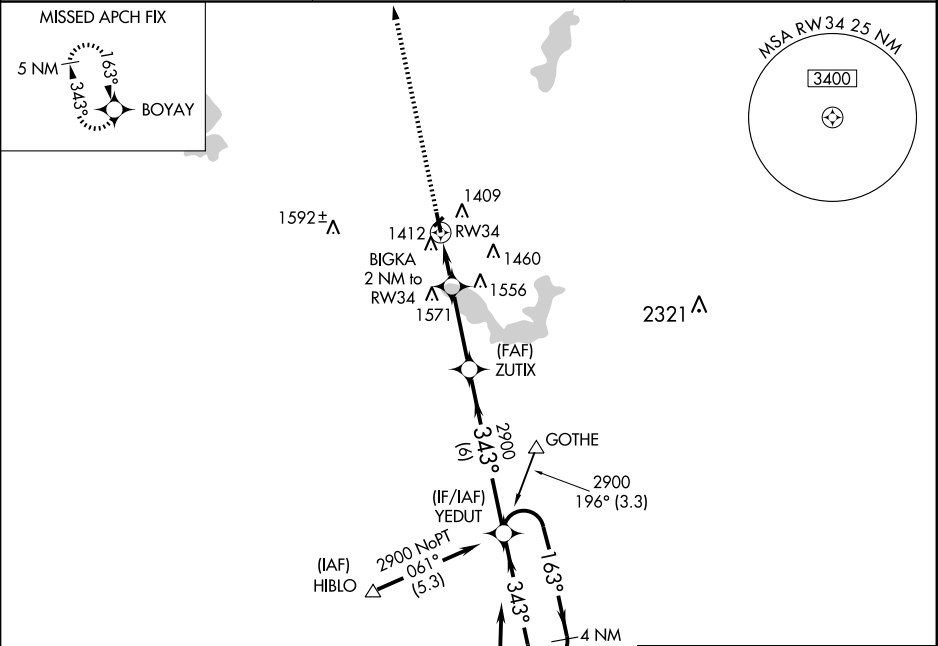
GPS or RNP-0.3 required. DME/DME RNP-0.3 NA.  
**IAF** ARM APPROACH MODE PRIOR TO IAF.

MISSED APPROACH: Climb to 2900 direct BOYAY WP and hold.

AWOS-3  
109.8

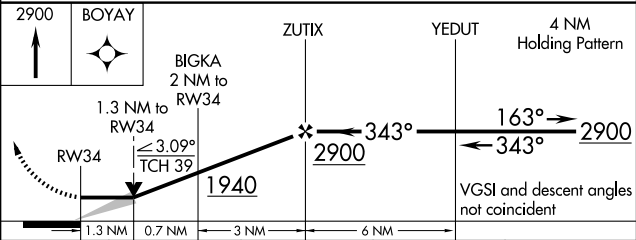
ROCHESTER APP CON ★  
119.8 251.125

UNICOM  
123.0 (CTAF) 0

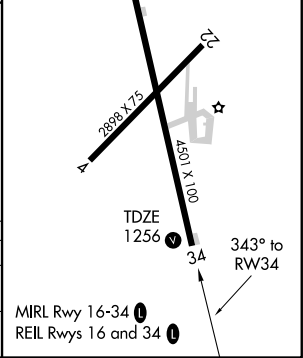


Procedure NA for arrivals at MCW VORTAC on airway radials 343 CW 032.

ELEV 1259



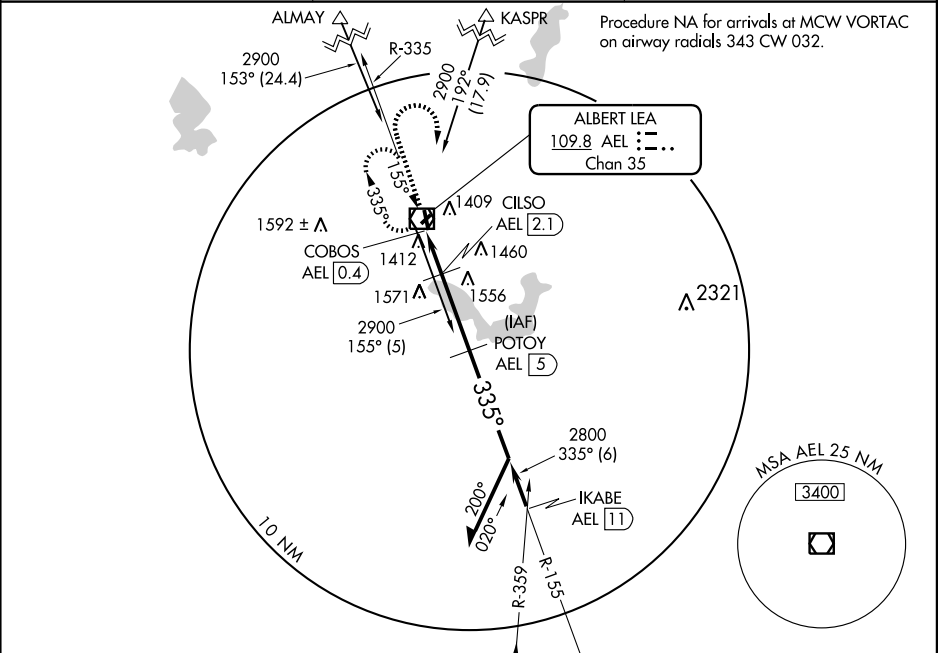
CATEGORY	A	B	C	D
RNAV MDA	1720-1	464 (500-1)	1720-1½ 464 (500-1½)	1720-1½ 464 (500-1½)
CIRCLING	1780-1	521 (600-1)	1780-1½ 521 (600-1½)	1820-2 561 (600-2)



NA

MISSED APPROACH: Climb to 2100 then climbing right turn to 2900 direct AEL VOR/DME and hold.

AWOS-3 109.8	ROCHESTER APP CON ★ 119.8 251.125	UNICOM 123.0 (CTAF) 0
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ELEV 1259

2100  
↑

2900  
↘

AEL  
109.8

COBOS  
AEL 0.4

CILSO  
AEL 2.1

≤ 3.37°  
TCH 39

1880

2800

155°

335°

2900

Remain within 10 NM

VGSI and descent angles not coincident

1.7 NM

2.9 NM

CATEGORY	A	B	C	D
S-34	1720-1 464 (500-1)		1720-1½ 464 (500-1½)	1720-1½ 464 (500-1½)
CIRCLING	1780-1 521 (600-1)		1780-1½ 521 (600-1½)	1820-2 561 (600-2)

335° 4.6 NM from FAF

MIRL Rwy 16-34 0

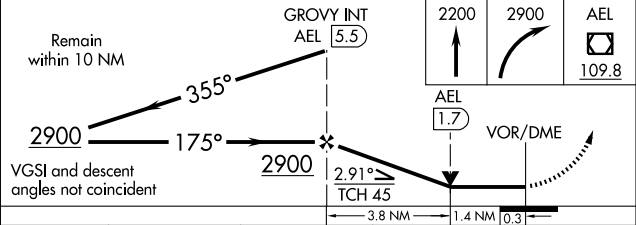
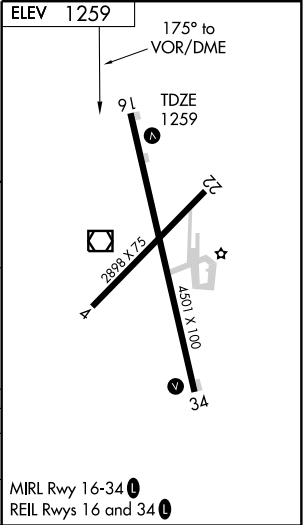
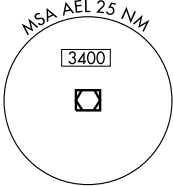
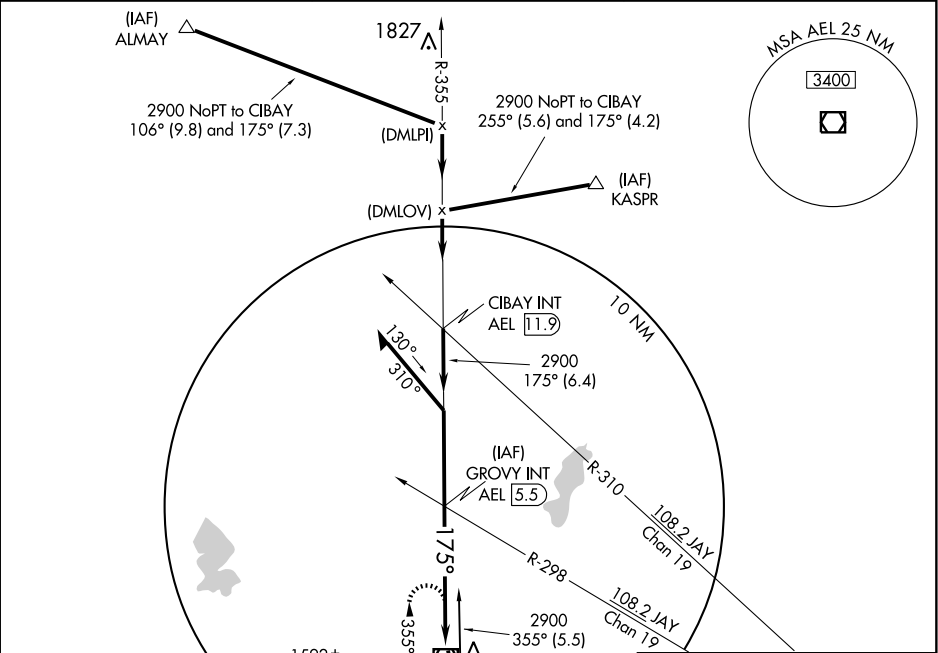
REIL Rwy 16 and 34 0

VOR/DME AEL	APP CRS	Rwy Idg	4501
109.8	175°	TDZE	1259
Chan 35		Apt Elev	1259

VOR RWY 16  
ALBERT LEA MUNI (AEL)

<div><div>▼</div><div>▲NA</div></div>	MISSED APPROACH: Climb to 2200 then climbing right turn to 2900 direct AEL VOR/DME and hold.
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AWOS-3 109.8	ROCHESTER APP CON ★ 119.8 251.125	UNICOM 123.0 (CTAF) 0
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CATEGORY	A	B	C	D
S-16	1720-1 461 (500-1)		1720-1½ 461 (500-1½)	1720-1½ 461 (500-1½)
CIRCLING	1780-1 521 (600-1)		1780-1½ 521 (600-1½)	1820-2 561 (600-2)

LOC I-EEZ <b><u>110.5</u></b>	APP CRS <b>315°</b>	Rwy Idg <b>5100</b> TDZE <b>1423</b> Apt Elev <b>1424</b>
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## ILS or LOC RWY 31

ALEXANDRIA/CHANDLER FIELD (AXN)

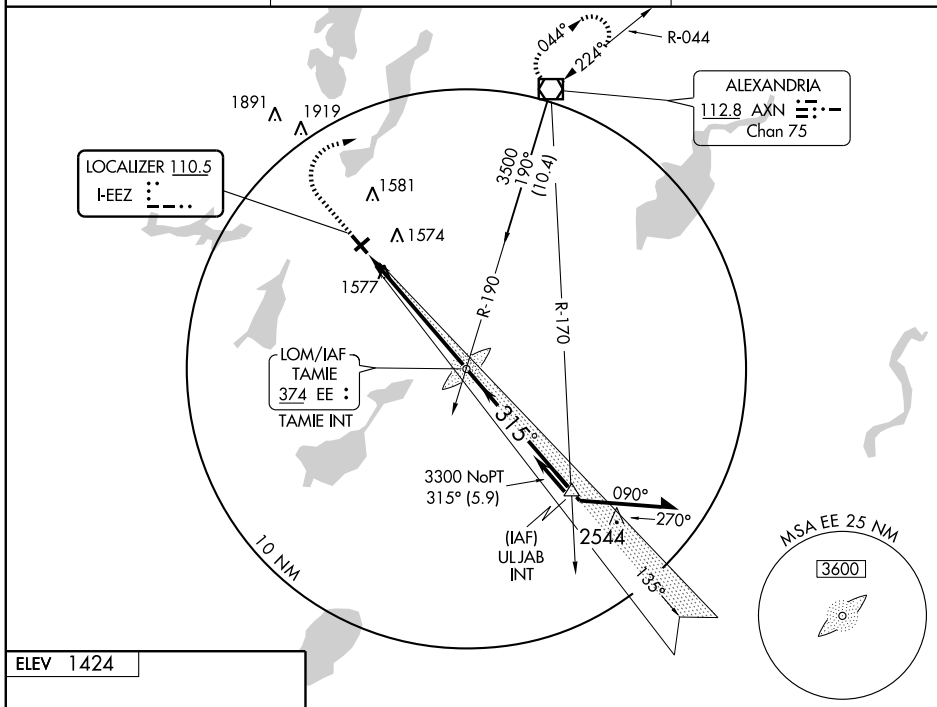
**NA** Inoperative table does not apply to S-LOC 31 Category C.

ODALS

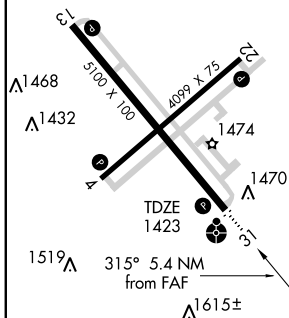


**MISSED APPROACH:** Climb to 2500 then climbing right turn to 3500 direct AXN VOR/DME and hold.

ASOS <b>118.375</b>	MINNEAPOLIS CENTER <b>126.1 269.2</b>	UNICOM <b>123.0</b> (CTAF) <b>0</b>
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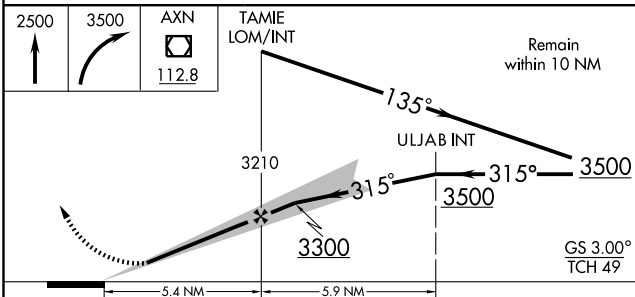
ELEV 1424

REIL Rwy 4, 13 and 22 **L**

MIRL Rwy 4-22 and 13-31 L

FAF to MAP 5.4 NM

Knots	60	90	120	150	180
Min:Sec	5:24	3:36	2:42	2:10	1:48




CATEGORY	A	B	C	D
S-ILS 31	1623- $\frac{3}{4}$ 200 (200- $\frac{3}{4}$ )			
S-LOC 31	1840- $\frac{3}{4}$ 417 (500- $\frac{3}{4}$ )		1840-1 $\frac{1}{4}$ 417 (500-1 $\frac{1}{4}$ )	
CIRCLING	1920-1 496 (500-1)		1920-1 $\frac{1}{2}$ 496 (500-1 $\frac{1}{2}$ )	1980-2 556 (600-2)

WAAS CH <b>61007</b> <b>W31A</b>	APP CRS <b>315°</b>	Rwy Idg TDZE Apt Elev	<b>5100</b> <b>1423</b> <b>1424</b>
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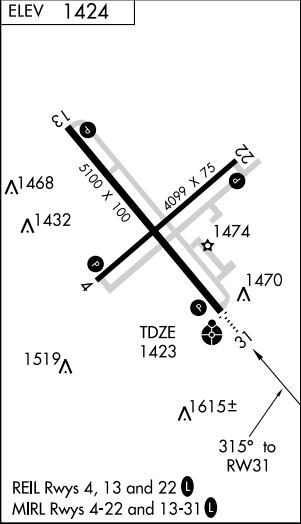
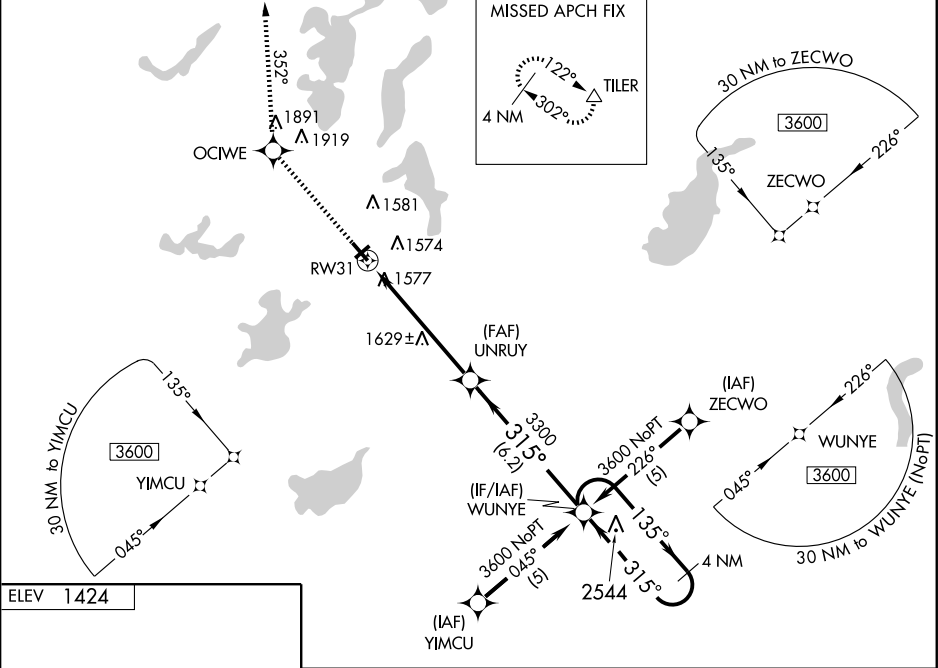
# RNAV (GPS) RWY 31

ALEXANDRIA/ CHANDLER FIELD (A.X.N)

**⚠** Inoperative table does not apply to LPV & LNAV/VNAV Cats A/B/C and LNAV Cat C. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (114°F). DME/DME RNP -0.3 NA. VDP and Baro-VNAV NA when using Glenwood altimeter setting. When local altimeter setting not received, use Glenwood altimeter setting and increase all DAs/MDAs 40 feet and increase LPV and LNAV/VNAV visibilities ¼ mile all Cats.

**ODALS**  MISSED APPROACH: Climb to 3500 direct OCIWE and via 352° track to TILER and hold.

ASOS <b>118.375</b>	MINNEAPOLIS CENTER <b>126.1 269.2</b>	UNICOM <b>123.0 (CTAF) 0</b>
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3500	OCIWE	track 352°	TILER	WUNYE	4 NM Holding Pattern
*LNAV only			UNRUY		
		*1.3 NM to RWY 31			
		1.3 NM	4.4 NM	6.2 NM	
CATEGORY	A	B	C	D	
LPV DA	1815-1¼		392 (400-1¼)		
LNAV/VNAV DA	1885-1½		462 (500-1½)		
LNAV MDA	1880-¾	457 (500-¾)	1880-1¼ 457 (500-1¼)	1880-1½ 457 (500-1½)	
CIRCLING	1920-1	496 (500-1)	1920-1½ 496 (500-1½)	1980-2 556 (600-2)	

VOR RWY 22

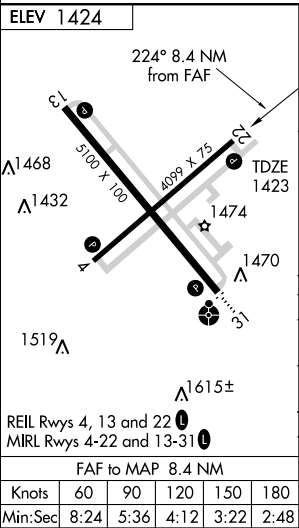
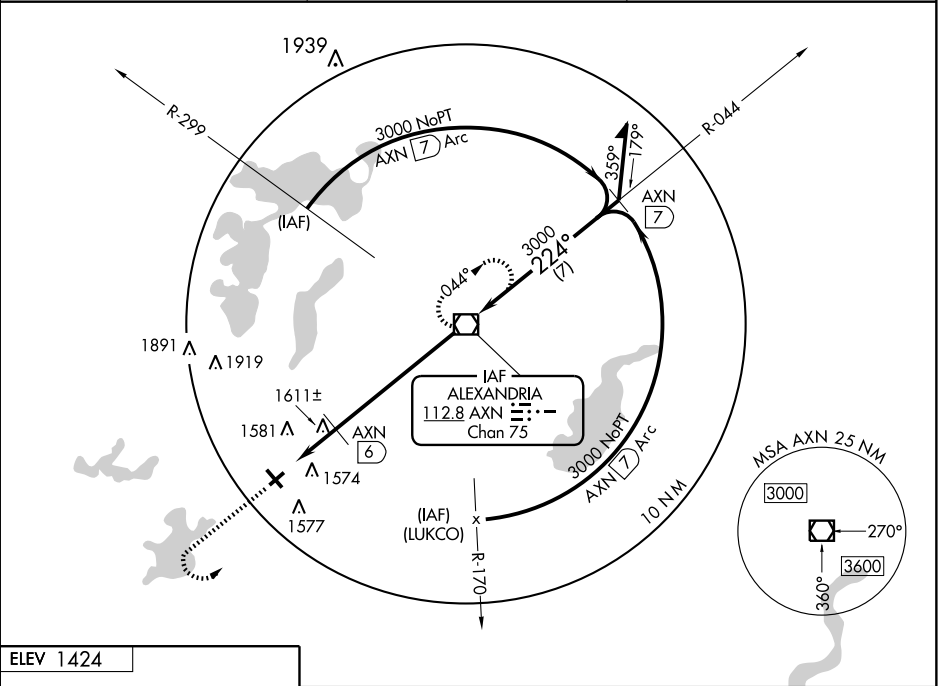
ALEXANDRIA/CHANDLER FIELD (AXN)

VOR/DME AXN	APP CRS	Rwy Idg	4099
112.8	224°	TDZE	1423
Chan 75		Apt Elev	1424



MISSED APPROACH: Climb to 2500 then climbing left turn to 3000 direct to AXN VOR/DME and hold.

ASOS 118.375	MINNEAPOLIS CENTER 126.1 269.2	UNICOM 123.0 (CTAF) 0
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CATEGORY	A		B		C		D	
	S-22	1980-1	557 (600-1)		1980-1 ½	557 (600-1 ½)	1980-1 ¾	557 (600-1 ¾)
CIRCLING		1980-1	556 (600-1)		1980-1 ½	556 (600-1 ½)	1980-2	556 (600-2)
DME MINIMUMS								
S-22		1880-1	457 (500-1)		1880-1 ¼	457 (500-1 ¼)	1880-1 ½	457 (500-1 ½)
CIRCLING		1920-1	496 (500-1)		1920-1 ½	496 (500-1 ½)	1980-2	556 (600-2)







LOC I-AUM <b><u>110.55</u></b>	APP CRS <b>351°</b>	Rwy Idg <b>5800</b> TDZE <b>1234</b> Apt Elev <b>1234</b>
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# ILS or LOC RWY 35

AUSTIN MUNI (AUM)

**▼** Inoperative table does not apply to S-ILS 35 when using local altimeter setting.

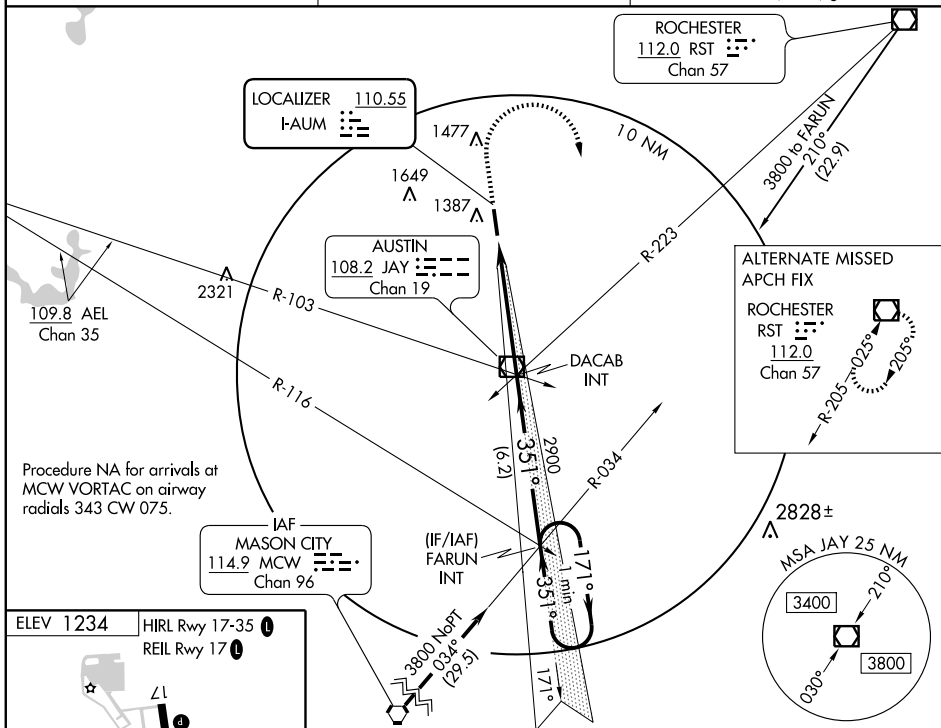
**▲ NA** When local altimeter setting not received, use Albert Lea altimeter setting and increase DA to 1532 feet and all MDAs 60 feet; increase S-LOC 35 Cat C/D visibility  $\frac{1}{4}$  mile. Visibility reduction by helicopters NA.

For inoperative MALSR, increase S-LOC 35 Cat A/B visibility to 1 mile, when using Albert Lea altimeter setting increase S-LOC 35 Cat A/B visibility to 1 mile.

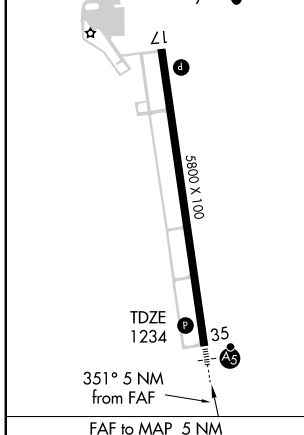
MALSR

**MISSED APPROACH:** Climb to 1800 then climbing right turn to 3800 via heading 150° and MCW VORTAC R-034 to FARUN INT and hold.

AWOS-3 <b>119.025</b>	ROCHESTER APP CON ★ <b>119.8 251.125</b>	UNICOM <b>122.7</b> (CTAF) <b>0</b>
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ELEV 1234	HIRL Rwy 17-35 <b>L</b>
	REIL Rwy 17 <b>L</b>



Knots	60	90	120	150	180
Min:Sec	5:00	3:20	2:30	2:00	1:40

1800 ↑	3800 ↗ 150°	MCW R-034 114.9	FARUN INT	FARUN INT One Minute Holding Pattern			
VGSI and ILS glidepath not coincident.		DACAB INT 2900		351°		171° →	3800
		2900		← 351°		GS 3.00° TCH 48°	
5 NM		6.2 NM					
CATEGORY	A	B	C	D			
S-ILS 35	1484- <sup>3</sup> / <sub>4</sub> 250 (300- <sup>3</sup> / <sub>4</sub> )						
S-LOC 35	1700- <sup>3</sup> / <sub>4</sub> 466 (500- <sup>3</sup> / <sub>4</sub> )						1700-1 466 (500-1)
CIRCLING	1740-1 506 (600-1)			1740-1½ 506 (600-1½)		1800-2 566 (600-2)	

DME/DME RNP -0.3 NA.  
Visibility reduction by helicopters NA.  
When local altimeter setting not received, use Albert Lea altimeter setting and increase all MDAs 60 feet, and LNAV Cat C/D visibility ¼ mile.

MISSED APPROACH: Climb to 3800 direct FARUN and hold.

AWOS-3  
**119.025**

ROCHESTER APP CON★  
**119.8 251.125**

UNICOM  
**122.7 (CTAF) 0**

Procedure NA for arrivals at RST VOR/DME on airway radials 260 CW 329.  
Procedure NA for arrivals at MCW VORTAC on airway radials 343 CW 032.

MSA RW 17 25 NM

3800

ROCHESTER RST

3000 291° (12.3)

MISSED APCH FIX

FARUN

169° 349° 4 NM

4 NM

169° 349°

(IF/IAF) MAROE

2900 NoPT 259° (5)

(IAF) NALGE

2900 NoPT 079° (5)

(IAF) PADUE

2900 169° (6.2)

(FAF) IGAME

1477 1349 ±

JELOG

1.8 NM to RW17

1649

1387

RW17

2321

3400 070° (46.3)

MASON CITY MCW

<div> <div> 4 NM Holding Pattern </div> <div> MAROE </div> <div> IGAME </div> <div> 3800 FARUN </div> </div>				
<div> <div> 2900 ← 349° 169° → 2900 </div> <div> 3.04° TCH 41 </div> <div> JELOG 1.8 NM to RW17 </div> <div> RW17 </div> </div>				
<div> <div> 6.2 NM 3.2 NM 1.8 NM </div> <div> 1840 </div> </div>				
CATEGORY	A	B	C	D
LNAV MDA	1700-1	469 (500-1)	1700-1 ¼ 469 (500-1 ¼)	1700-1 ½ 469 (500-1 ½)
CIRCLING	1740-1	506 (600-1)	1740-1 ½ 506 (600-1 ½)	1800-2 566 (600-2)

ELEV 1234

169° to RW17

TDZE 1231

5800 X 100

35

A5

HIRL Rwy 17-35 0

REIL Rwy 17 0

NC-1: 22 OCT 2009 to 19 NOV 2009

WAAS CH <b>99506</b> <b>W35A</b>	APP CRS <b>349°</b>	Rwy Idg <b>5800</b> TDZE <b>1234</b> Apt Elev <b>1234</b>
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RNAV (GPS) RWY 35  
AUSTIN MUNI (AUM)

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F)  
or above 46°C (115°F)

DME/DME RNP- 0.3 NA. Visibility reduction by helicopters NA.  
Baro-VNAV and VDP NA when using Albert Lea altimeter setting. When local  
altimeter setting not received, use Albert Lea altimeter setting and increase all  
DAs 48 feet and all MDAs 60 feet, increase LNAV/VNAV visibility ¼ mile all  
Cats, and LNAV Cat C/D visibility ¼ mile.

For inoperative MALSR, when using Albert Lea altimeter setting, increase LPV visibility to 1 1/4 mile all Cats.

MALSR



**MISSED APPROACH:** Climb to 2900 direct MAROE and hold.

AWOS-3  
119.025

ROCHESTER APP CON ★  
119.8 251.125

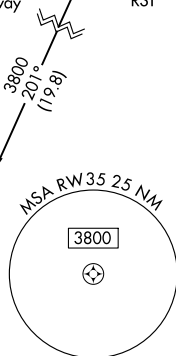
UNICOM  
122.7 (CTAF) 

MISSED APCH FIX



Δ 2321

Procedure NA for arrivals  
at RST VOR/DME on airway  
radials 157 CW 260.


**ROCHESTER**  
**INSTITUTE OF**  
**TECHNOLOGY** $\Lambda_{2828\pm}$ 

Procedure NA for arrivals  
at MCW VORTAC on airway  
radials 343 CW 075.

MASON  
MCV

### VGSI and RNAV glidepath not coincident

FARUN

4 NM  
Holding Pattern

\* LNAV only

\*1.3 NM to

DACAB

FARUN

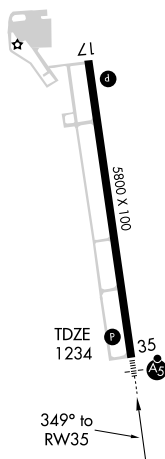
$$\frac{69^\circ \rightarrow}{\quad} 3800$$

GS 3.00  
TCH 48

CATEGORY		A	B	C	D
LPV	DA	1527- $\frac{3}{4}$		293 (300- $\frac{3}{4}$ )	
LNAV/ VNAV	DA	1578- $\frac{3}{4}$		344 (400- $\frac{3}{4}$ )	
LNAV	MDA	1700- $\frac{3}{4}$ 466 (500- $\frac{3}{4}$ )			1700-1 466 (500-1)
CIRCLING		1740-1 506 (600-1)		1740-1 $\frac{1}{2}$ 506 (600-1 $\frac{1}{2}$ )	1800-2 566 (600-2)

ELEV 1234

HIRL Rwy 17-35 **L**  
REIL Rwy 17 **L**



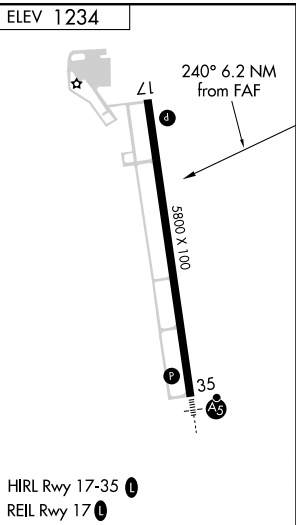
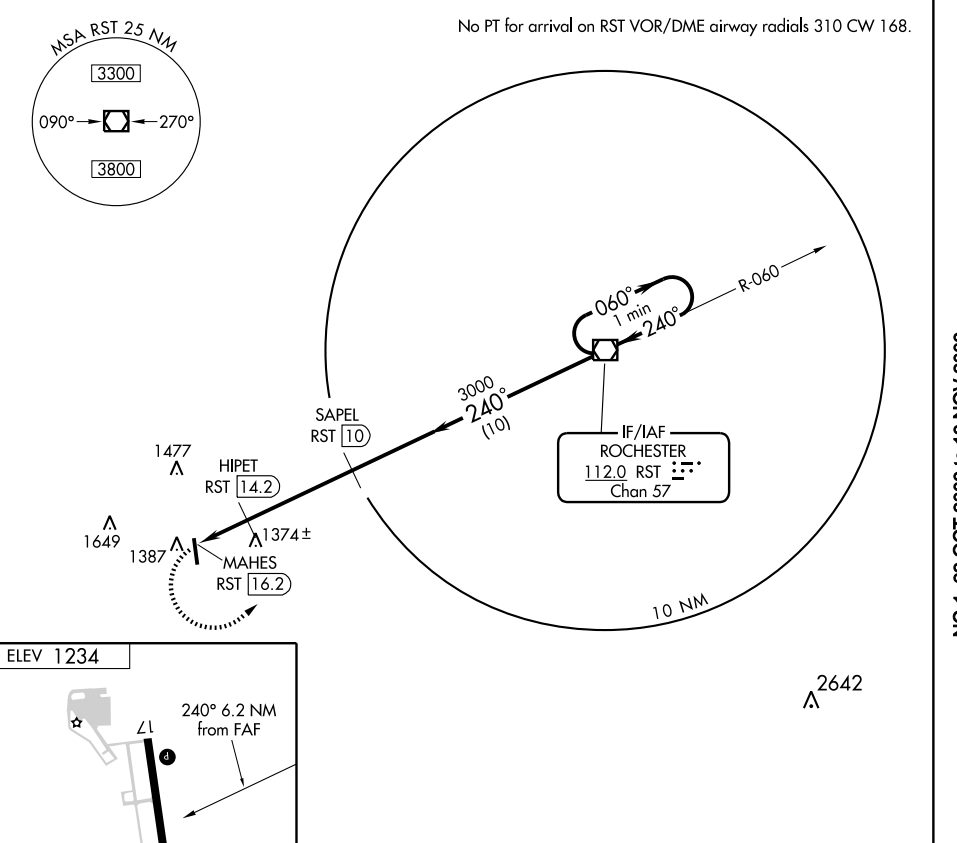
▼

▲

When local altimeter setting not received, use Albert Lea altimeter setting and increase all MDAs 60 feet.

MISSED APPROACH: Climbing left turn to 3000 direct RST VOR/DME and hold.

AWOS-3 119.025	ROCHESTER APP CON* 119.8 251.125	UNICOM 122.7 (CTAF) 0
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3000	RST 112.0	*1900 when using Albert Lea altimeter setting.	VOR/DME	One Minute Holding Pattern
2 NM 4.2 NM 10 NM				
CATEGORY	A	B	C	D
CIRCLING	1740-1	506 (600-1)	1740-1½ 506 (600-1½)	1800-2 566 (600-2)

NC-1: 22 OCT 2009 to 19 NOV 2009

**MISSED APPROACH:** Climb to 2900  
direct JAY VOR/DME and hold.

UNICOM  
122.7 (CTAF) **L**

ROCHESTER APP CON ★  
119.8 251.125

UNICOM  
122.7 (CTAF) **L**



ELEV 1234

171° 5.1 NM from FAF

TDZE 1231

5800 X 100

HIRL Rwy 17-35

REIL Rwy 17

35

A5

FAF to MAP 5.1 NM					
Knots	60	90	120	150	180
Min:Sec	5:06	3:24	2:33	2:02	1:42

VOR/DME JAY	APP CRS	Rwy Idg	5800
108.2	351°	TDZE	1234
Chan 19		Apt Elev	1234

Visibility reduction by helicopters NA.

When local altimeter setting not received, use Albert Lea altimeter setting and increase all MDAs 60 feet, and S-35 Cats C/D visibility ¼ mile.

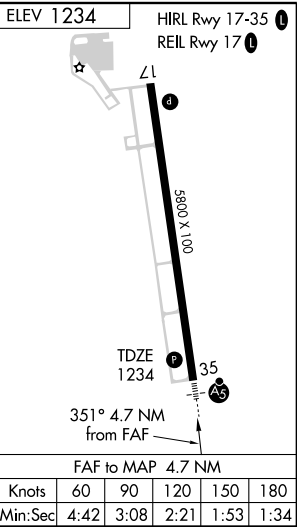
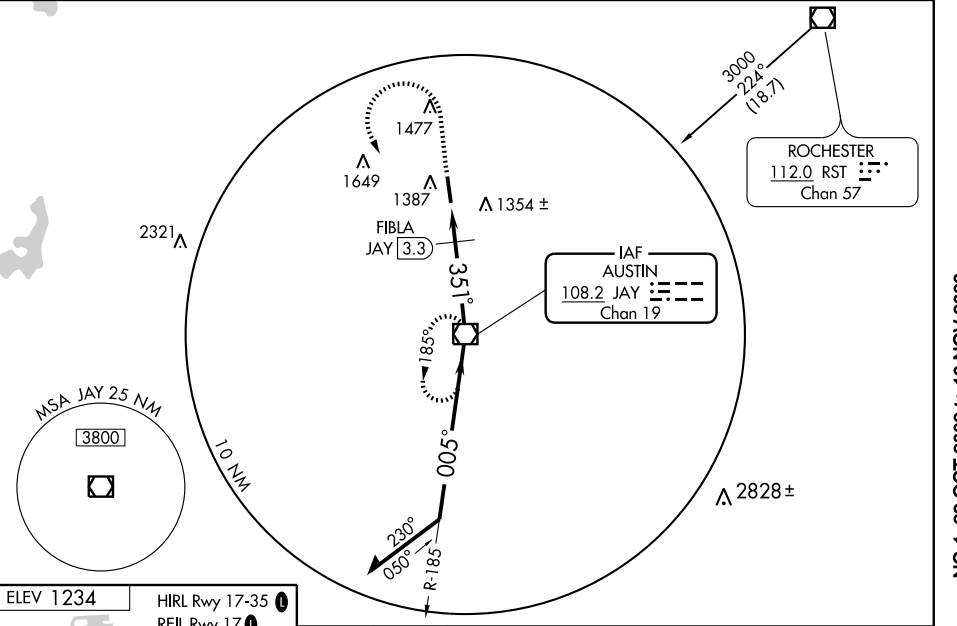
For inoperative MALS, increase S-35 Cats A/B visibility to 1 mile and Cat D to 1¼ mile, when using Albert Lea altimeter setting increase S-35 Cats A/B and FIBLA FIX MINIMUMS S-35 Cats A/B visibility to 1 mile.

MALS

45

MISSED APPROACH: Climb to 2100 then climbing left turn to 2900 direct JAY VOR/DME and hold.

AWOS-3 119.025	ROCHESTER APP CON ★ 119.8 251.125	UNICOM 122.7 (CTAF) 0
-------------------	--------------------------------------	--------------------------



VGSI and descent angles not coincident.				
VOR/DME 6000 185° 2900 005° 2900				
*1760 when using Albert Lea altimeter setting.				
CATEGORY	A		B	
S-35	1700-¾ 466 (500-¾)		1700-1 466 (500-1)	
CIRCLING	1740-1	506 (600-1)	1740-1½ 506 (600-1½)	1800-2 566 (600-2)
FIBLA FIX MINIMUMS				
S-35	1620-¾ 386 (400-¾)		1620-1 386 (400-1)	
CIRCLING	1740-1	506 (600-1)	1740-1½ 506 (600-1½)	1800-2 566 (600-2)

APP CRS  
117°

Rwy Idg  
TDZE  
Apt Elev

5499  
1084  
1084

RNAV (GPS) RWY 12

BAUDETTE INTL (BDE)

T

NA

W

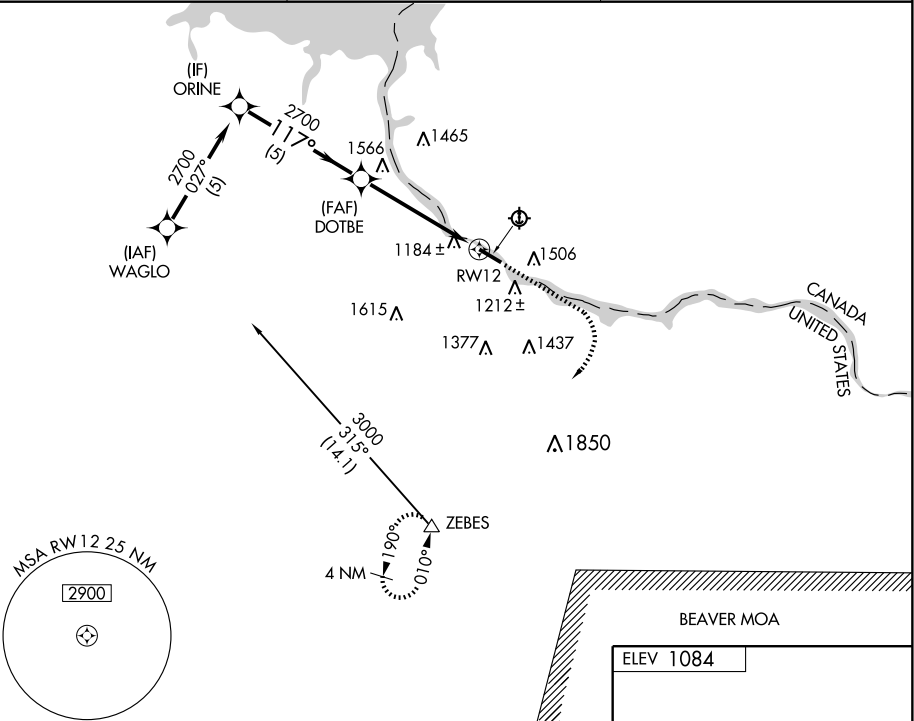
Baro-VNAV NA below -17°C (2°F).  
GPS or RNP- 0.3 required. DME/DME RNP- 0.3 NA.

MISSED APPROACH: Climb to 2300 then climbing right turn to 3000 direct ZEBES WP and hold.

ASOS  
126.775

PRINCETON RADIO  
122.4

UNICOM  
122.8 (CTAF) 0



Procedure  
Turn NA

ORINE

DOTBE

ZEBES

2700

2700

2300

3000

GS 3.00°  
TCH 45

5 NM

3.5 NM

1.4 NM

\* 1.4 NM to RW12

\* LNAV only

RW12

117° to RW12

TDZE 1084

SEAPLANE LANDING AREA  
6000 X 1200

5499 X 100

371W

1129

CATEGORY	A	B	C	D
GLS PA DA	NA			
LNAV/VNAV DA	1440-1¼		356 (400-1¼)	
LNAV MDA	1560-1 476 (500-1)		1560-1¼ 476 (500-1¼)	1560-1½ 476 (500-1½)
CIRCLING	1860-1¼ 776 (800-1¼)		1860-2¼ 776 (800-2¼)	1860-2½ 776 (800-2½)


MIRL Rwy 12-30 0

REIL Rwy 12 0

REIL Rwy 30

WAAS CH <b>81814</b> <b>W30A</b>	APP CRS <b>297°</b>	Rwy Idg <b>5499</b> TDZE <b>1085</b> Apt Elev <b>1086</b>
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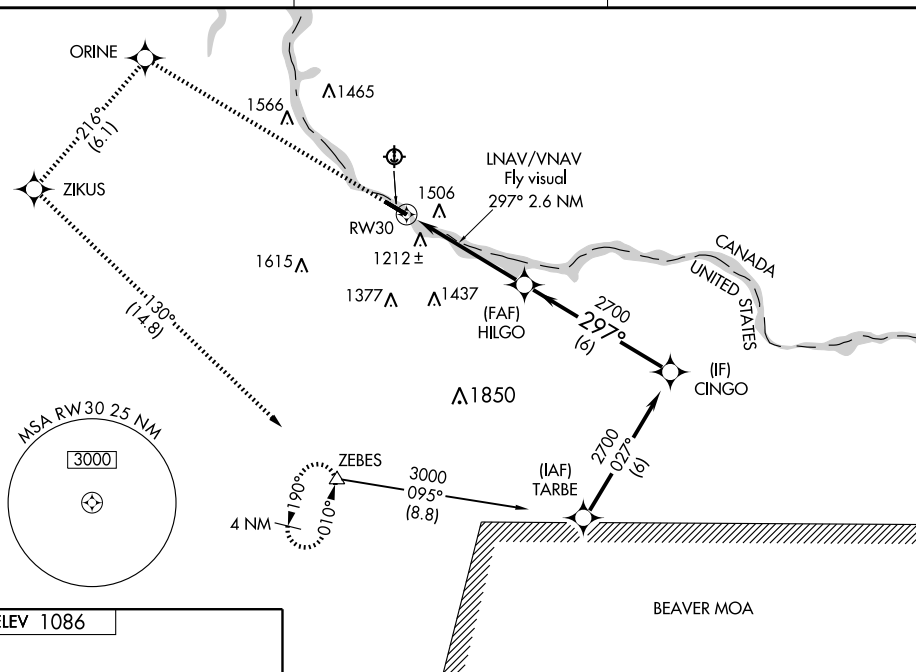
RNAV (GPS) RWY 30  
BAUDETTE INTL (BDE)

- |  |   |
|--|---|
|  | <p>Circling NA northeast of Rwy 12-30.<br/>DME/DME RNP- 0.3 NA.</p> <p>If local altimeter setting not received, use Warroad altimeter setting and increase all DAs/MDAs 80 feet.</p> <p>Baro-VNAV NA below -17°C (2°F).</p> <p>Baro-VNAV and VDP NA when using Warroad altimeter setting.</p> |
|--|---|

**MISSED APPROACH:** Climb to 3000 direct ORINE and via 216° track to ZIKUS and via 129° track to ZEBES and hold.

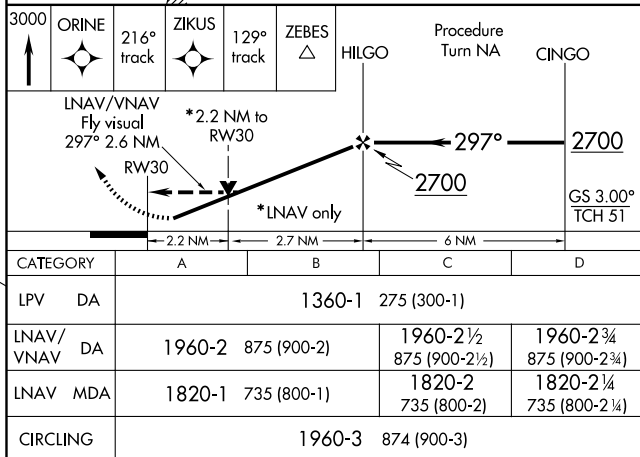
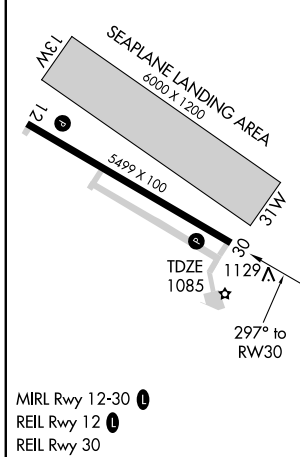
ASOS  
126,775

PRINCETON RADIO  
122.4

UNICOM  
122.8 (CTAF) **L**

NC-1. 22 OCT 2009 to 19 NOV 2009

ELEV 1086





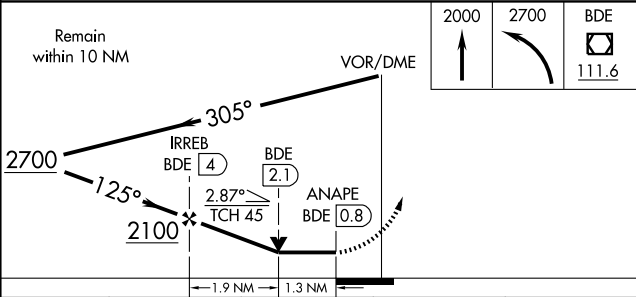
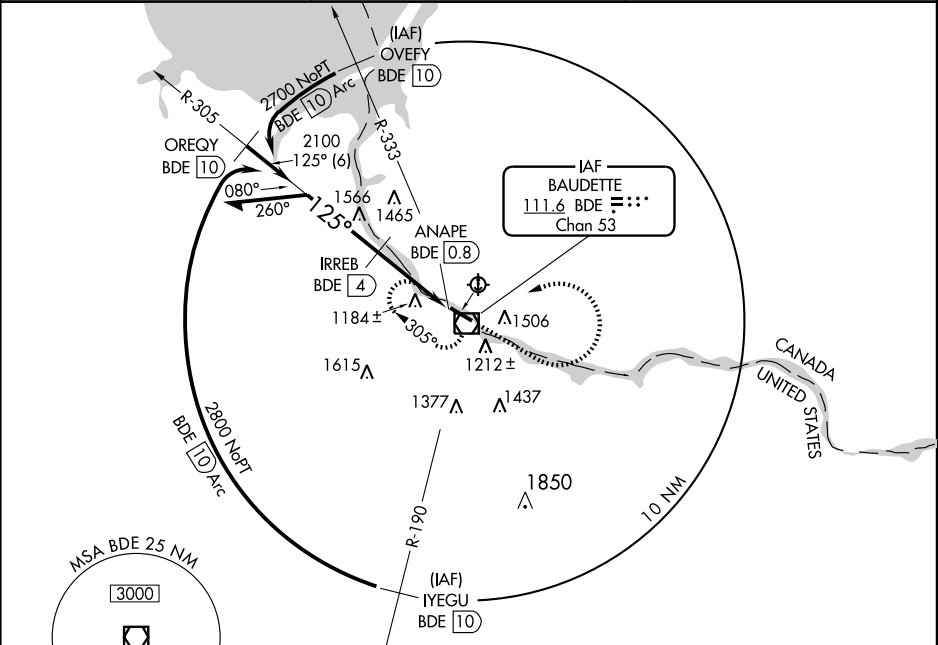
VOR/DME BDE	APP CRS	Rwy Idg	5499
111.6	125°	TDZE	1084
Chan 53		Apt Elev	1084

VOR/DME RWY 12  
BAUDETTE INTL (BDE)

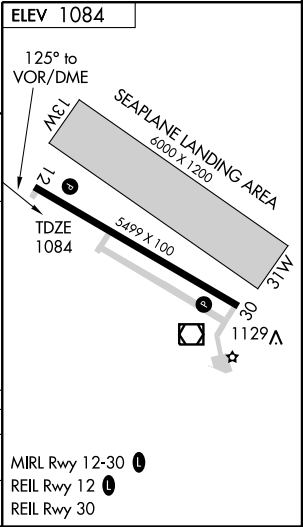


MISSED APPROACH: Climb to 2000 then climbing left turn to 2700 direct BDE VOR/DME and hold.

ASOS 126.775	PRINCETON RADIO 122.4	UNICOM 122.8 (CTAF) 1
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CATEGORY	A	B	C	D
S-12	1540-1 456 (500-1)		1540-1½ 456 (500-1½)	1540-1½ 456 (500-1½)
CIRCLING	1860-1 776 (800-1)	1860-1½ 776 (800-1½)	1860-2½ 776 (800-2½)	1860-2½ 776 (800-2½)

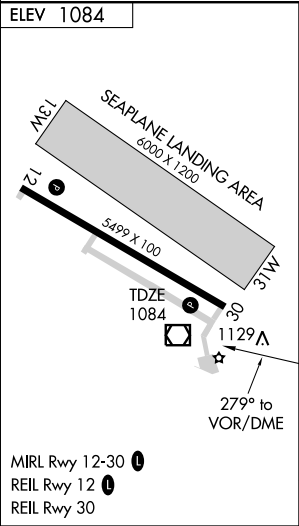
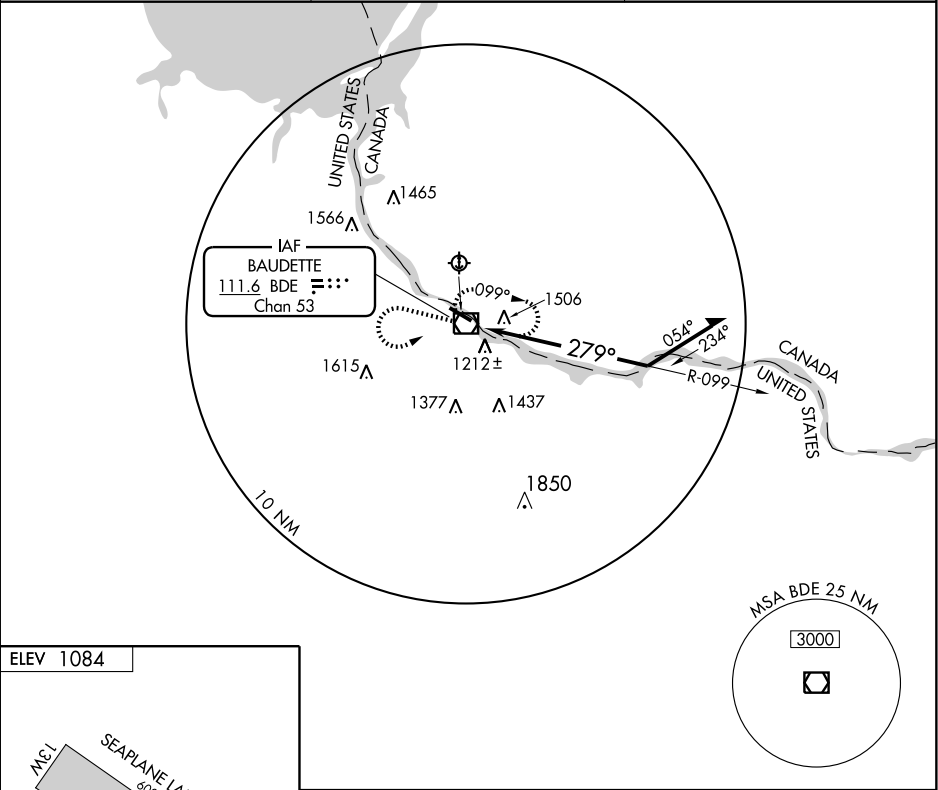


VOR/DME BDE	APP CRS	Rwy Idg	5499
111.6	279°	TDZE	1084
Chan 53		Apt Elev	1084

VOR RWY 30  
BAUDETTE INTL (BDE)

<div><div></div><div></div></div>	MISSED APPROACH: Climb to 2700 then left turn direct BDE VOR/DME and hold.
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ASOS 126.775	PRINCETON RADIO 122.4	UNICOM 122.8 (CTAF) <b>L</b>
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2700	BDE 111.6	VOR/DME	099°	2700	279°	Remain within 10 NM
CATEGORY	A	B	C	D		
S-30	1860-1 776 (800-1)	1860-1¼ 776 (800-1¼)	1860-2¼ 776 (800-2¼)	1860-2½ 776 (800-2½)		
CIRCLING	1860-1 776 (800-1)	1860-1¼ 776 (800-1¼)	1860-2¼ 776 (800-2¼)	1860-2½ 776 (800-2½)		

LOC/DME I-BJI	APP CRS	Rwy ldg
109.35	250°	5700
Chan 30 (Y)		TDZE 1389
		Apt Elev 1391

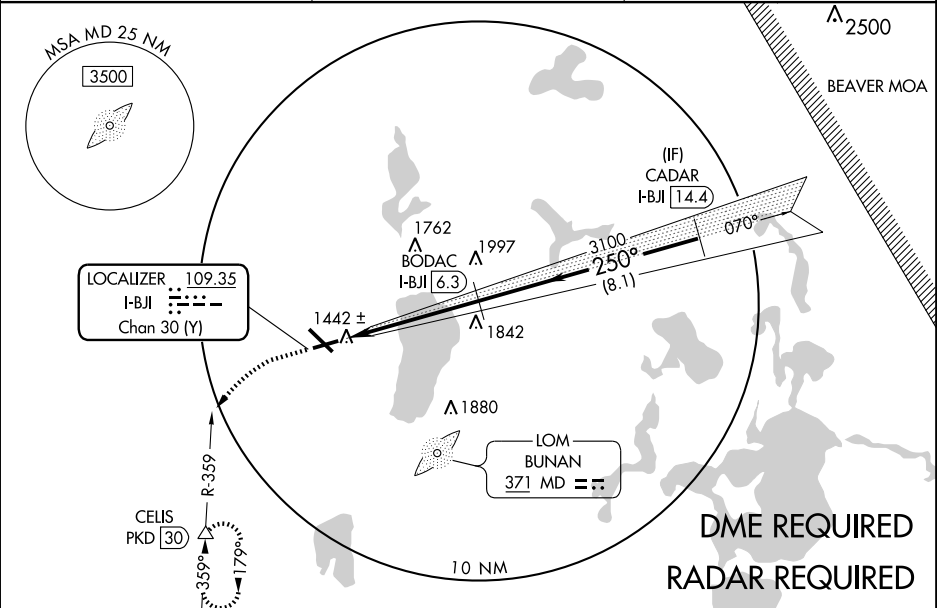
ILS or LOC/DME RWY 25

BEMIDJI RGNL (BJI)

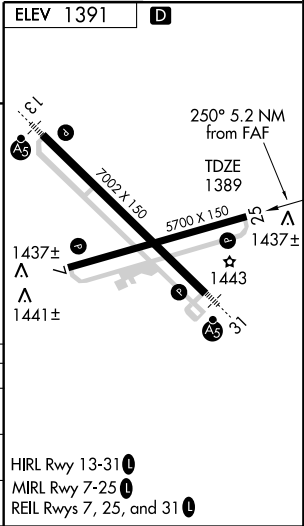
Visibility reduction by helicopters NA.  
VDP NA when using Park Rapids altimeter setting.  
If local altimeter setting not received, use Park Rapids altimeter setting; increase DA to 293 feet and visibility all Cats ¼ mile; increase all MDAs 100 feet, and visibility Cats C/D ¼ mile.

MISSED APPROACH: Climb to 2300 then climbing left turn to 3400 via PKD VOR/DME R-359 to CELUS/PKD 30 DME and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
119.275	134.75 251.1	122.8 (CTAF) 1



2300	3400	CELUS
↑	PKD R-359	△
Use I-BJI DME when on the localizer course.		
I-BJI 1.1	I-BJI 2	BODAC I-BJI 6.3
0.9	4.3 NM	8.1 NM
3100	250°	3100
GS 3.00°	TCH 46	
CATEGORY	A	B
S-ILS 25	1589-3/4	200 (200-3/4)
S-LOC 25	1700-1	311 (400-1)
CIRCLING	1860-1 469 (500-1)	1860-1 1/2 469 (500-1 1/2)





APP CRS	Rwy Idg	<b>7002</b>
<b>130°</b>	TDZE	<b>1391</b>
	Apt Elev	<b>1391</b>

## RNAV (GPS) RWY 13

BEMIDJI RGNL (BJI)

For inoperative MALSR, increase LNAV Cats A/B/C visibility to 1 mile, Cat D visibility to 1/2 mile. DME/DME RNP -0.3 NA. Visibility reduction by helicopters NA. VDP NA when using Park Rapids altimeter setting. When local altimeter setting not received, use Park Rapids altimeter setting, and increase all MDA 100 feet. For inoperative MALSR when using Park Rapids altimeter setting, increase LNAV Cats A/B visibilities to 1 mile.

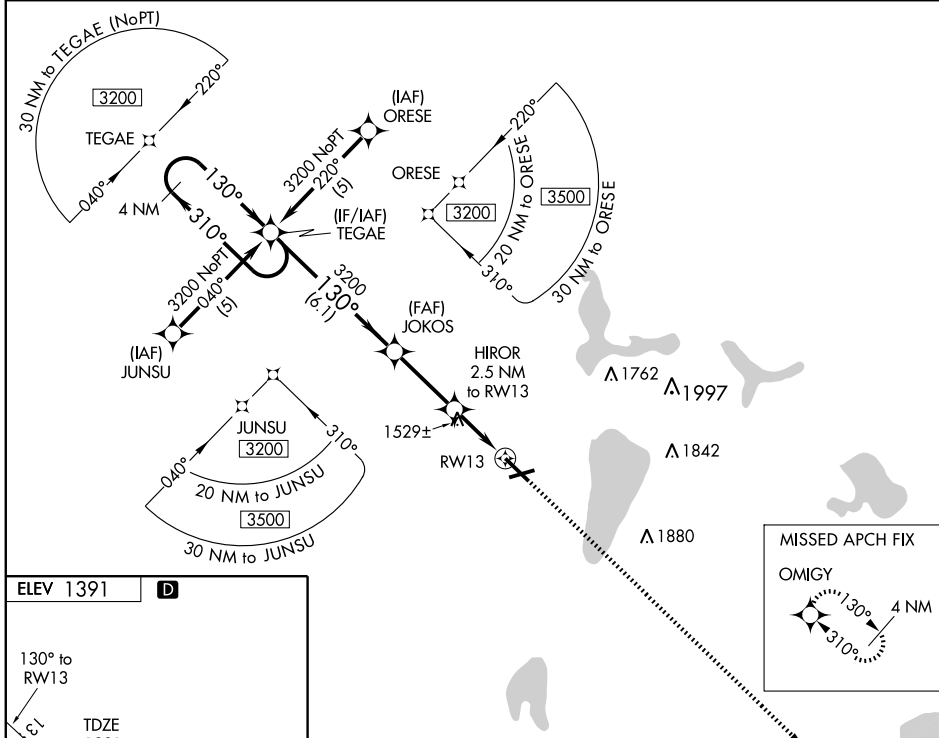
MALSR



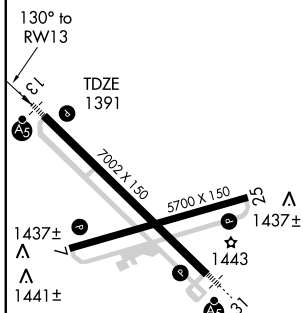
MISSED APPROACH: Climb to 3200  
direct OMIGY and hold.

AWOS-3  
**119.275**

MINNEAPOLIS CENTER  
134.75 251.1

UNICOM  
122.8 (CTAF) **L**

ELEV 1391

HIRL Rwy 13-31 **L**MIRL Rwy 7-25 **L**

REIL Rwys 7, 13, and 25 L

CATEGORY	A	B	C	D
LNAV MDA	1780- $\frac{3}{4}$ 389 (400- $\frac{3}{4}$ )			1780-1 389 (400-1)
CIRCLING	1840-1 449 (500-1)	1860-1 469 (500-1)	1860-1 $\frac{1}{2}$ 469 (500-1 $\frac{1}{2}$ )	1960-2 569 (600-2)

WAAS CH <b>99711</b> <b>W31A</b>	APP CRS <b>310°</b>	Rwy Idg <b>7002</b> TDZE <b>1389</b> Apt Elev <b>1391</b>
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## RNAV (GPS) RWY 31

BEMIDJI RGNL (BJI)



For inoperative MALSR, increase LNAV Cat D visibility to 1¼ mile. Baro-VNAV NA when using Park Rapids altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (114°F). DME/DME RNP -0.3 NA. VDP NA when using Park Rapids altimeter setting. When local altimeter setting not received, use Park Rapids altimeter setting and increase all DA 93 feet and all MDA 100 feet; increase LNAV/VNAV all Cats visibility ½ mile and LNAV Cat C visibility ¼ mile. For inoperative MALSR when using Park Rapids altimeter setting, increase LPV visibility to 1 mile all Cats.


MALSR



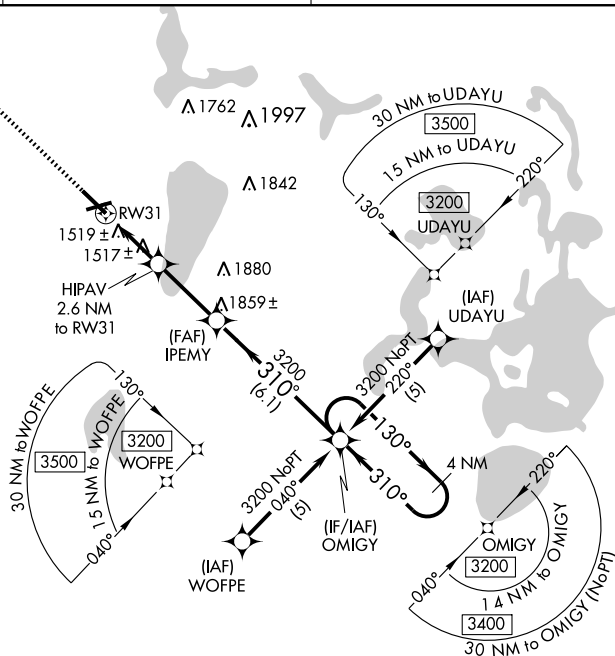
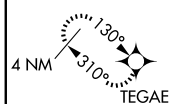
**MISSED APPROACH:** Climb to 3200  
direct TEGAE and hold.

AWOS-3  
119.275

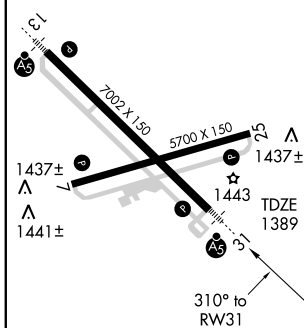
MINNEAPOLIS CENTER  
134.75 251.1

UNICOM  
122.8 (CTAF) 

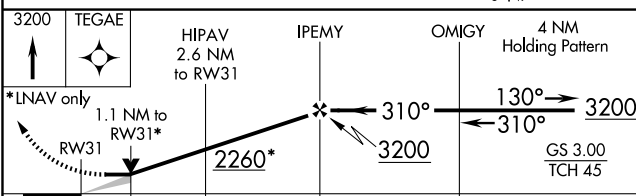
MISSED APCH FIX



ELEV 1391

HIRL Rwy 13-31 **L**MIRL Rwy 7-25 **L**

REIL Rwy 7, 13, and 25 L



	1.1	1.5 NM	2.9 NM	6.1 NM	
CATEGORY	A		B	C	D
LPV DA	1589-½ 200 (300-½)				
RNAV/ VNAV DA	1825-1 436 (500-1)				
RNAV MDA	1780-½ 391 (400-½)				1780-1 391 (400-1)
CIRCLING	1840-1 449 (500-1)	1860-1 469 (500-1)	1860-1½ 469 (500-1½)	1960-2 569 (600-2)	

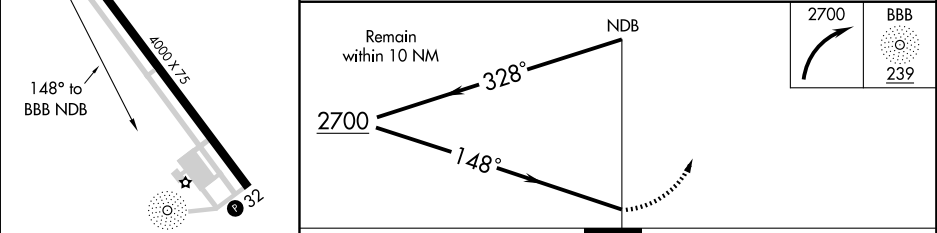
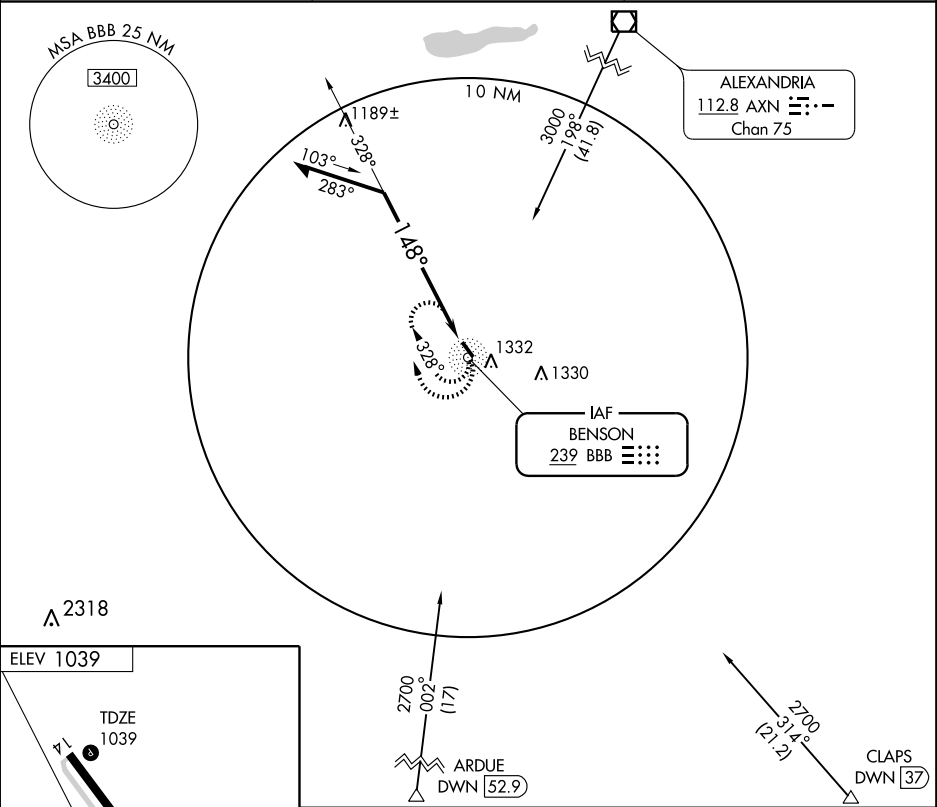
NDB RWY 14  
BENSON MUNI (BBB)

NDB BBB	APP CRS	Rwy Idg	4000
239	148°	TDZE	1039
		Apt Elev	1039

▼  
▲ NA  
If local altimeter setting not recieved, use Appleton  
altimeter setting and increase all MDAs 40 feet.

MISSED APPROACH: Climbing right turn to 2700 in BBB NDB  
holding pattern.

AWOS-3 239	MINNEAPOLIS CENTER 125.5 323.1	UNICOM 122.8 (CTAF) 0
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CATEGORY	A	B	C	D
S-14	1700-1	661 (700-1)	NA	
CIRCLING	1740-1	701 (800-1)	NA	

WAAS CH <b>49210</b> <b>W14A</b>	APP CRS <b>138°</b>	Rwy Idg TDZE Apt Elev	<b>4000</b> <b>1039</b> <b>1039</b>
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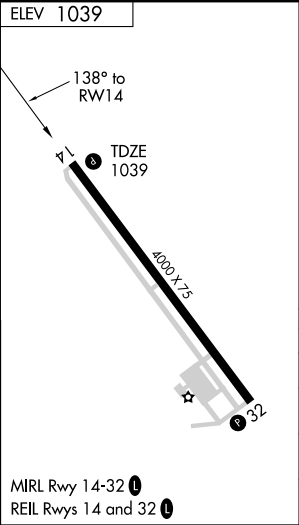
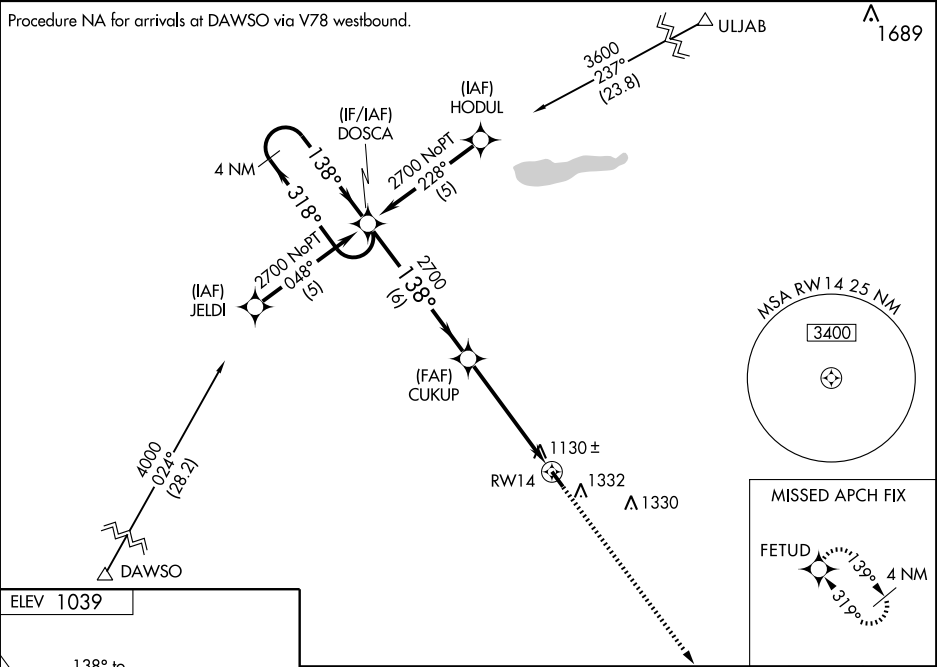
RNAV (GPS) RWY 14  
BENSON MUNI (BBB)

**⚠** For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 54°C (130°F).  
**⚠** DME/DME RNP -0.3 NA.  
Baro-VNAV and VDP NA when using Appleton altimeter setting.  
When local altimeter setting not received, use Appleton altimeter setting and increase all DA and MDA 40 feet, increase Circling Cat B visibility ¼ mile.

MISSED APPROACH: Climb to 2700 direct FETUD and hold.

AWOS-3 <b>239</b>	MINNEAPOLIS CENTER <b>125.5 323.1</b>	UNICOM <b>122.8 (CTAF) 0</b>
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Procedure NA for arrivals at DAWSO via V78 westbound.



4 NM Holding Pattern		DOSCA	CUKUP	2700	FETUD
2700		318°	138°	2700	
GS 3.00°					
TCH 40					
		6 NM	3.5 NM	1.5	
CATEGORY	A	B	C	D	
LPV DA	1382-1¼	343 (400-1¼)		NA	
LNAV/VNAV DA	1426-1½	387 (400-1½)		NA	
LNAV MDA	1540-1	501 (600-1)		NA	
CIRCLING	1740-1	701 (800-1)		NA	



WAAS CH <b>99710</b> <b>W32A</b>	APP CRS <b>319°</b>	Rwy Idg TDZE Apt Elev	<b>4000</b> <b>1039</b> <b>1039</b>
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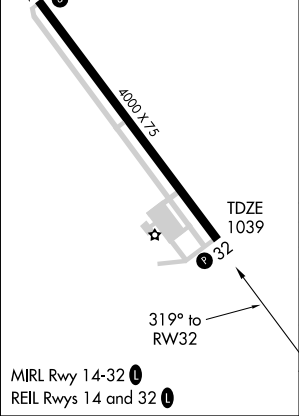
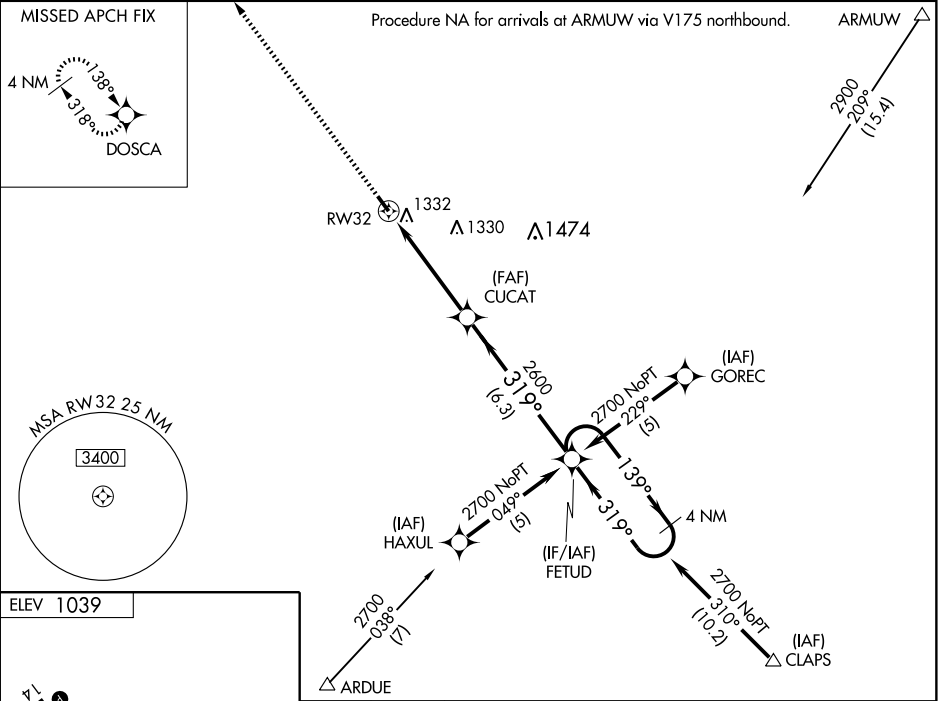
RNAV (GPS) RWY 32  
BENSON MUNI (BBB)

**⚠** For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 54°C (130°F).

**⚠** DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA. Baro-VNAV NA when using Appleton altimeter setting. When local altimeter setting not received, use Appleton altimeter setting and increase all DA and MDA 40 feet, increase Circling Cat B visibility ¼ mile.

MISSED APPROACH: Climb to 2700 direct DOSCA and hold.

AWOS-3 <b>239</b>	MINNEAPOLIS CENTER <b>125.5 323.1</b>	UNICOM <b>122.8 (CTAF) 0</b>
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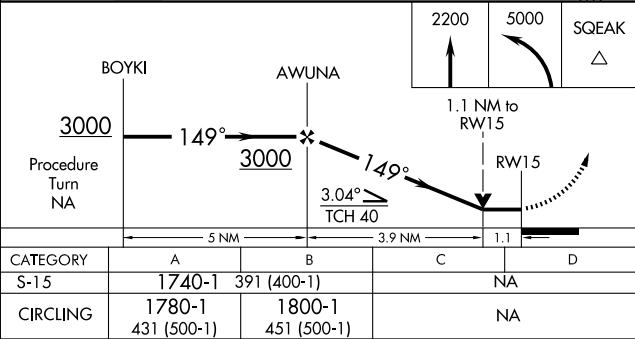
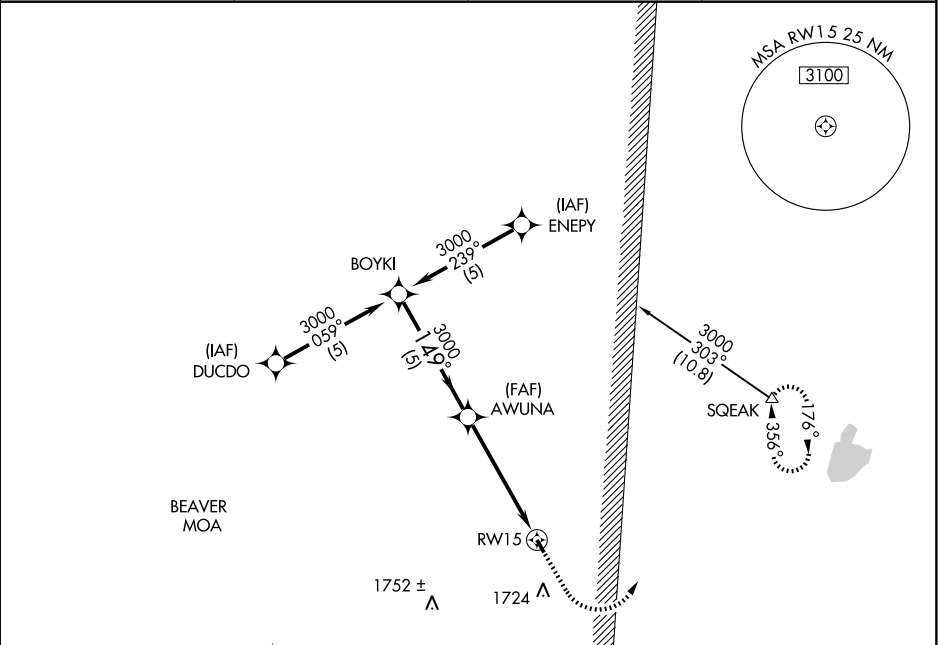


2700 ↑ DOSCA		CUCAT		FETUD		4 NM Holding Pattern
RW32		2600		139° →		2700
4.7 NM		6.3 NM		← 319°		GS 3.00° TCH 41
CATEGORY		A	B	C	D	
LPV DA		1426-1½	387 (400-1½)			NA
LNAV/ VNAV DA		1710-2½	671 (700-2½)			NA
LNAV MDA		1700-1	661 (700-1)			NA
CIRCLING		1740-1	701 (800-1)			NA

APP CRS	Rwy Idg	3100
149°	TDZE	1349
	Apt Elev	1349

GPS RWY 15  
BIGFORK MUNI (FOZ)

<div><div>T</div><div>NA</div></div>		MISSED APPROACH: Climb to 2200 then climbing left turn to 5000 direct SQUEAK and hold.	
AWOS-3 345	MINNEAPOLIS CENTER 127.9 281.45	GCO 121.725	CTAF 122.9 0



NDB FOZ <b><u>345</u></b>	APP CRS <b>160°</b>	Rwy Idg TDZE Apt Elev	<b>3100</b> <b>1346</b> <b>1348</b>
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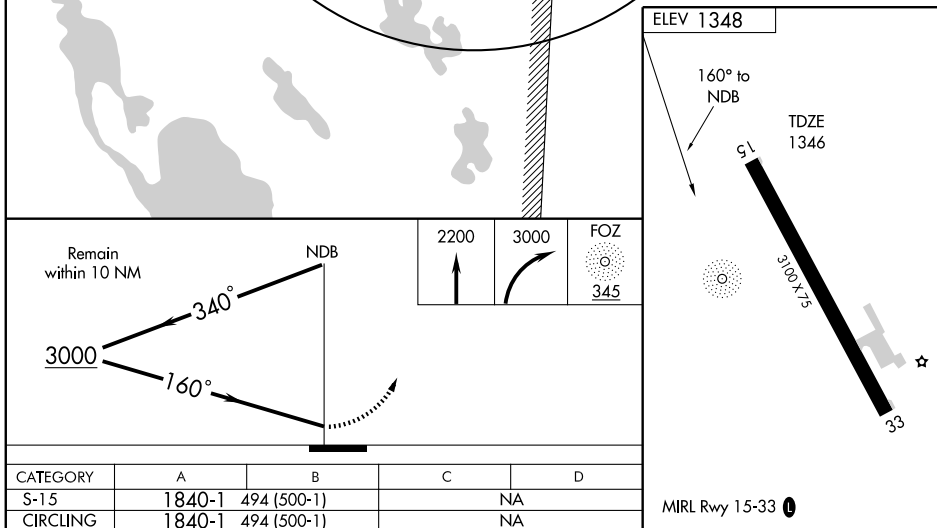
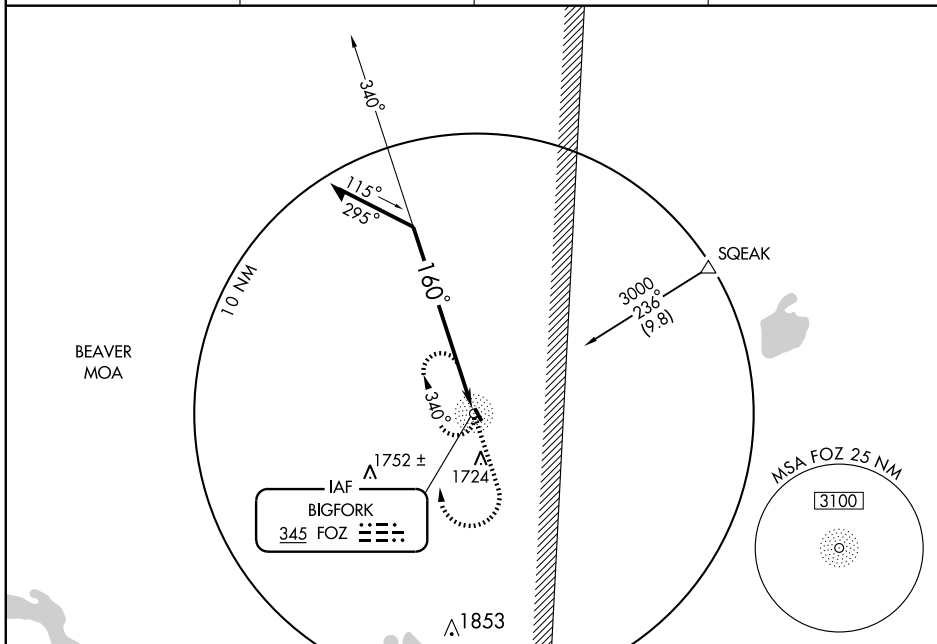
**NDB RWY 15**  
BIGFORK MUNI (FOZ)

**T** Procedure not authorized when BEAVER MOA is active.

**A** NA

**MISSED APPROACH:** Climb to 2200 then climbing right turn to 3000 direct FOZ NDB and hold.

AWOS-3 345	MINNEAPOLIS CENTER 127.9 281.45	GCO 121.725	CTAF 122.9 0
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⚠ NA

Use Fairmont altimeter setting.

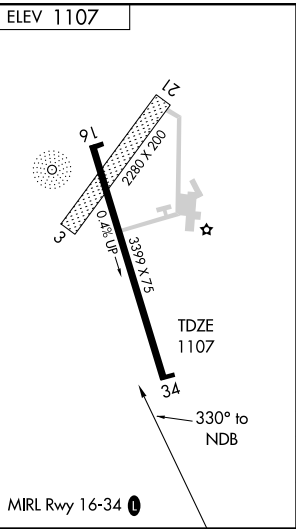
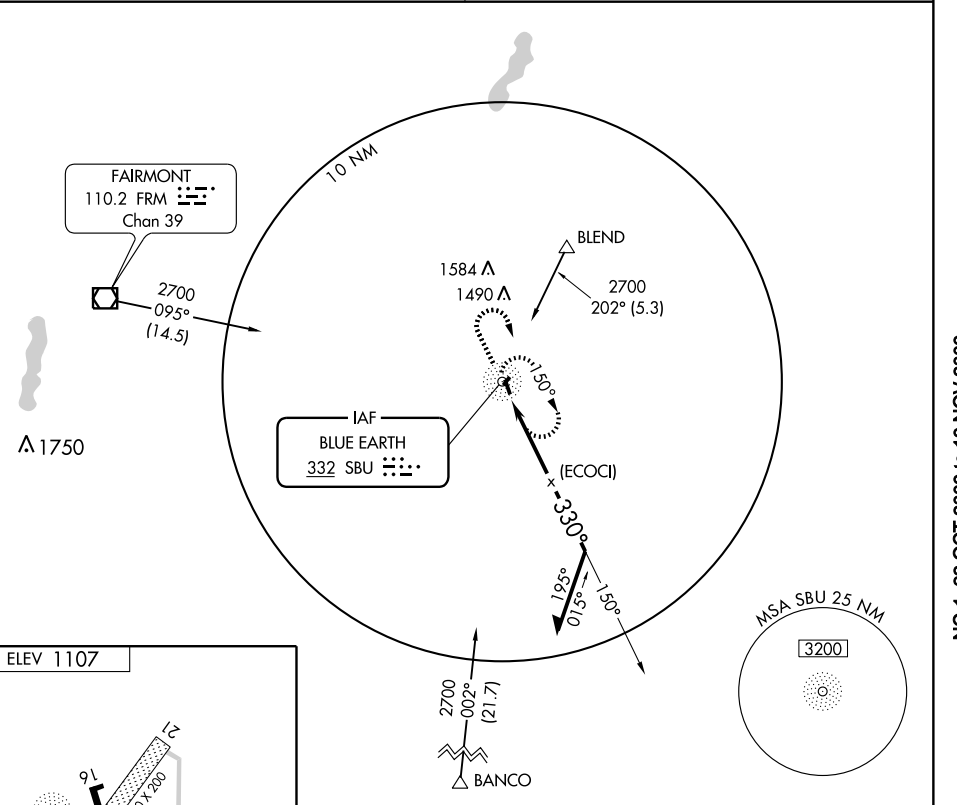
MISSED APPROACH: Climb to 2700 then right turn direct SBU NDB and hold.




MINNEAPOLIS CENTER

127.75 257.7

UNICOM

122.8 (CTAF)



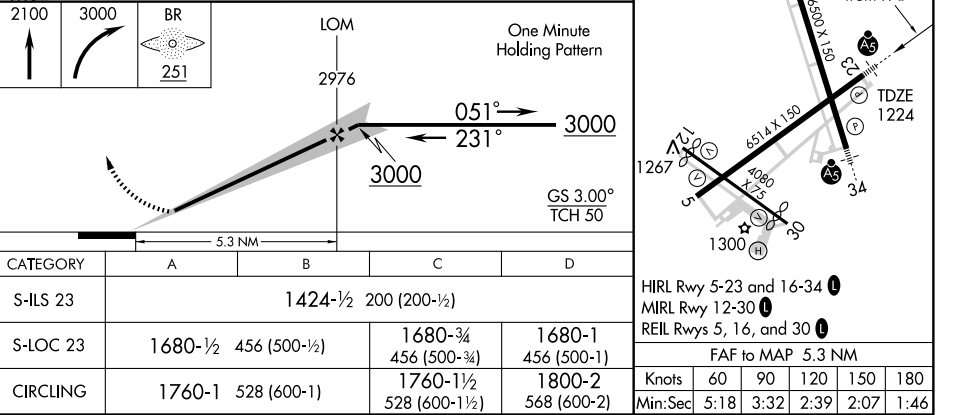
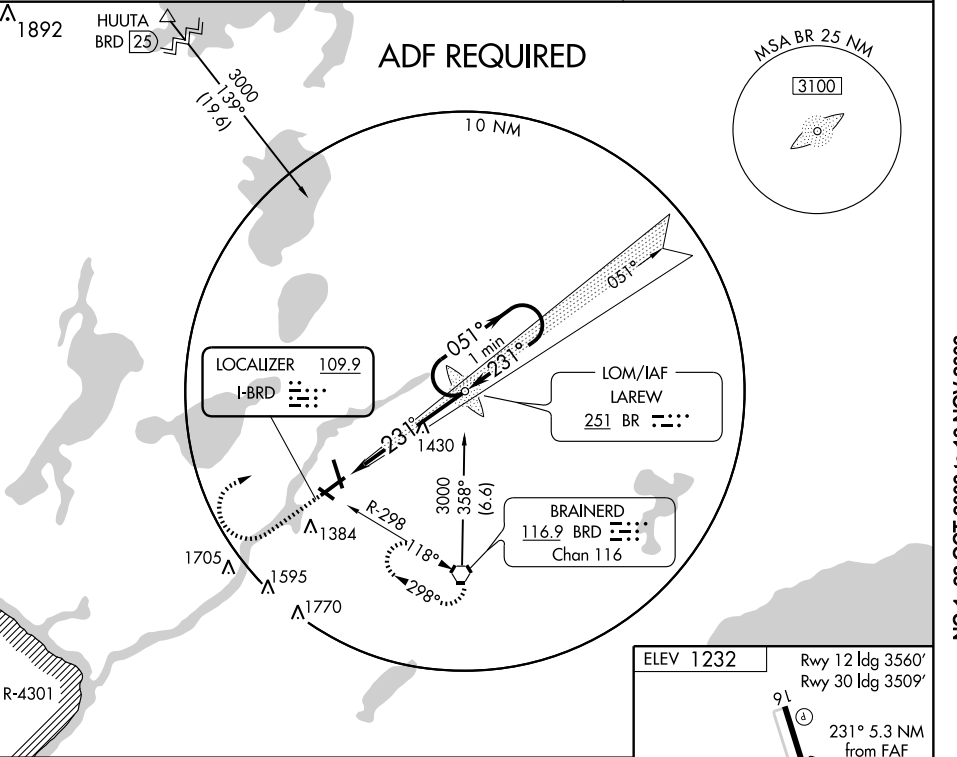
2700			SBU  332		
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If local altimeter setting not received, use Aitkin Muni-Steve Kurtz Field altimeter setting and increase all DAs 52 feet, all MDAs 60 feet.

MALSR

MISSED APPROACH: Climb to 2100 then climbing right turn to 3000 direct LAREW LOM and hold.

ASOS 126.775	MINNEAPOLIS CENTER 118.05 239.0	UNICOM 122.7 (CTAF) 0
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LOC I- <u>109.7</u>	APP CRS <b>340°</b>	Rwy Idg TDZE Apt Elev	<b>6500</b> <b>1232</b> <b>1232</b>
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# ILS or LOC RWY 34

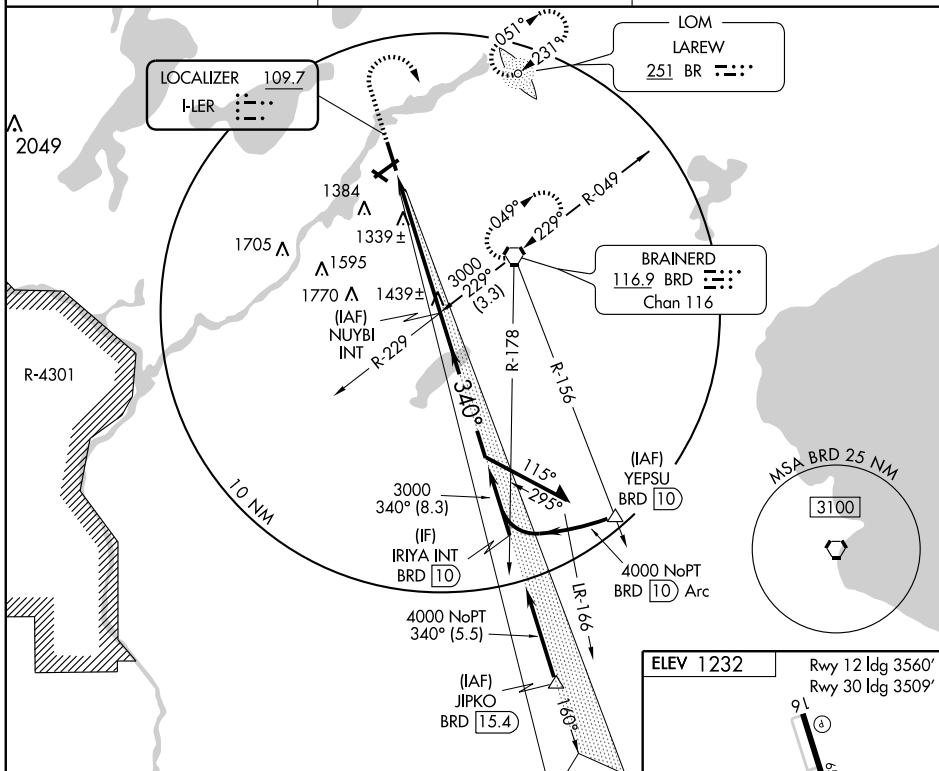
**T** If local altimeter setting not received, use Aitkin altimeter setting and increase DA 52 feet and increase all MDAs 60 feet.

MALSR

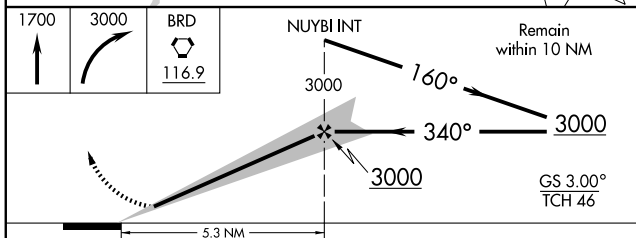
**MISSED APPROACH:** Climb to 1700 then climbing right turn to 3000 direct BRD VORTAC and hold.

ASOS  
126,775

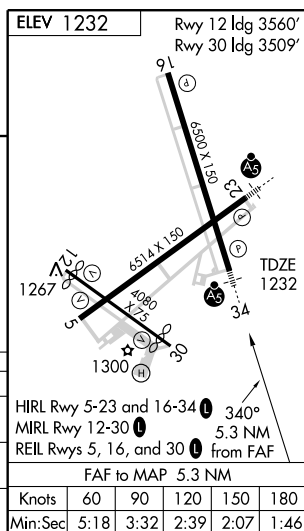
MINNEAPOLIS CENTER  
118.05 239.0

UNICOM  
122.7 (CTAF) **L**

NC-1. 22 OCT 2009 to 19 NOV 2009



CATEGORY	A	B	C	D
S-ILS 34	1432-½ 200 (200-½)			
S-LOC 34	1600-½ 368 (400-½)			1600-¾ 368 (400-¾)
CIRCLING	1760-1 528 (600-1)		1760-1½ 528 (600-1½)	1800-2 568 (600-2)





# RNAV (GPS) RWY 5

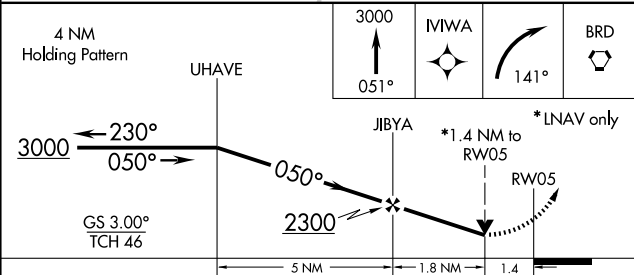
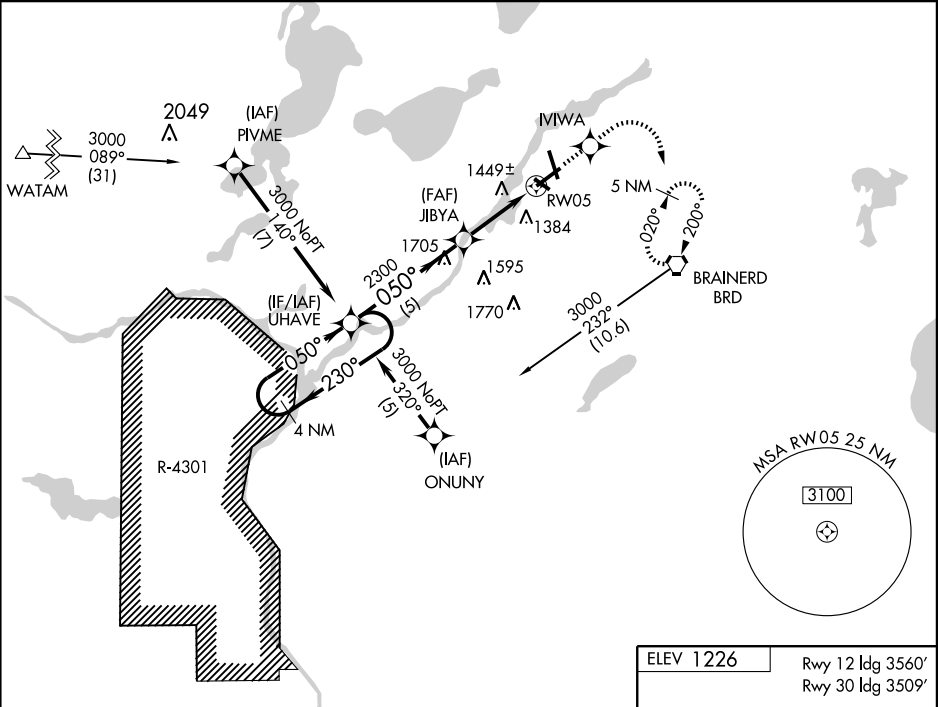
BRainerd LAKES RGNL (BRD)

APP CRS	Rwy Idg	6514
050°	TDZE	1223
	Apt Elev	1226

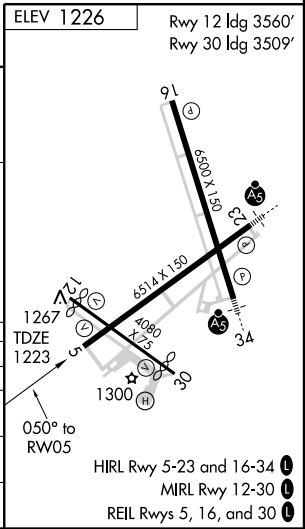
**Baro-VNAV NA below -17°C (2°F).**  
**GPS or RNP-0.3 required. DME/DME RNP-0.3 NA.**  
Holding in lieu of procedure turn NA when R-4301 is active.

**MISSED APPROACH:** Climb to 3000 via 051° course to IWIWA WP then right turn via 141° course to BRD VORTAC and hold.

ASOS 126.775	MINNEAPOLIS CENTER 118.05 239.0	UNICOM 122.7(CTAF) 0
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CATEGORY	A	B	C	D
GLS PA DA	NA			
LNAV/VNAV DA	1700-1¾		477 (500-1¾)	
LNAV MDA	1700-1	477 (500-1)	1700-1¾ 477 (500-1¾)	1700-1½ 477 (500-1½)
CIRCLING	1760-1¾	534 (600-1¾)	1780-2 554 (600-2)	





APP CRS  
**122°**

Rwy Idg  
**3560**

TDZE  
**1225**

Apt Elev  
**1232**

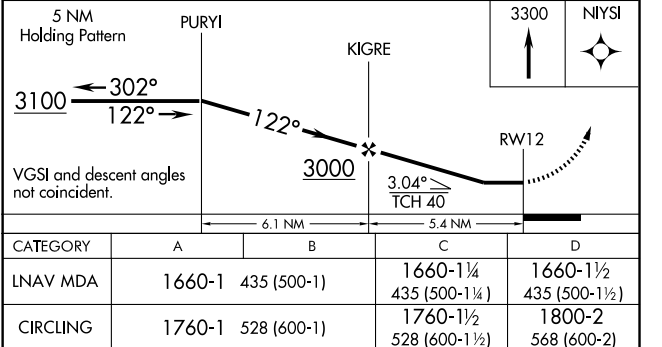
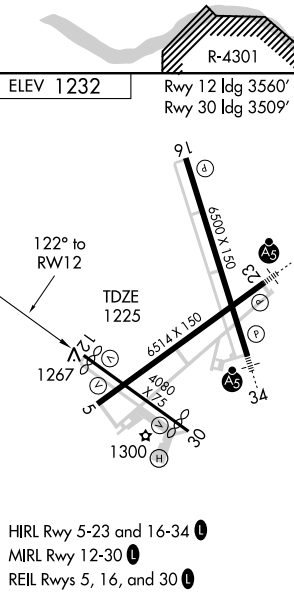
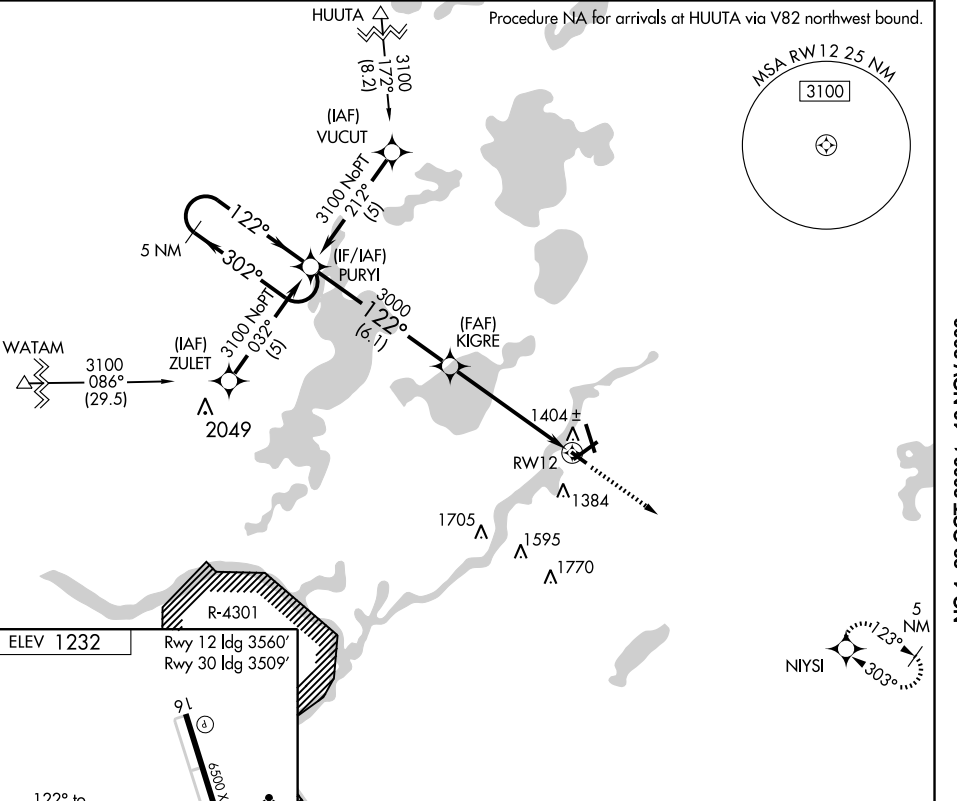
**▼** If local altimeter setting not received, use Aitkin Muni-Steve Kurtz Field altimeter setting and increase all MDAs 60 feet.  
**▲** DME/DME RNP-0.3 NA.  
Visibility reduction by helicopters NA.

MISSED APPROACH: Climb to 3300 direct NIYSI and hold.

ASOS  
**126.775**

MINNEAPOLIS CENTER  
**118.05 239.0**

UNICOM  
**122.7 (CTAF) 0**



HIRL Rwy 5-23 and 16-34 **0**  
MIRL Rwy 12-30 **0**  
REIL Rwy 5, 16, and 30 **0**

NC-1: 22 OCT 2008 to 19 NOV 2009

WAAS CH <b>82502</b> <b>W23A</b>	APP CRS <b>231°</b>	Rwy Idg TDZE Apt Elev	<b>6514</b> <b>1224</b> <b>1232</b>
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# RNAV (GPS) RWY 23

BRAINERD LAKES RGNL (BRD)

**⚠** For inoperative MALS, increase LPV all CATS visibility to 1 mile.

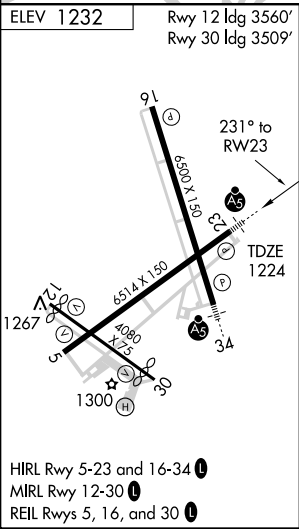
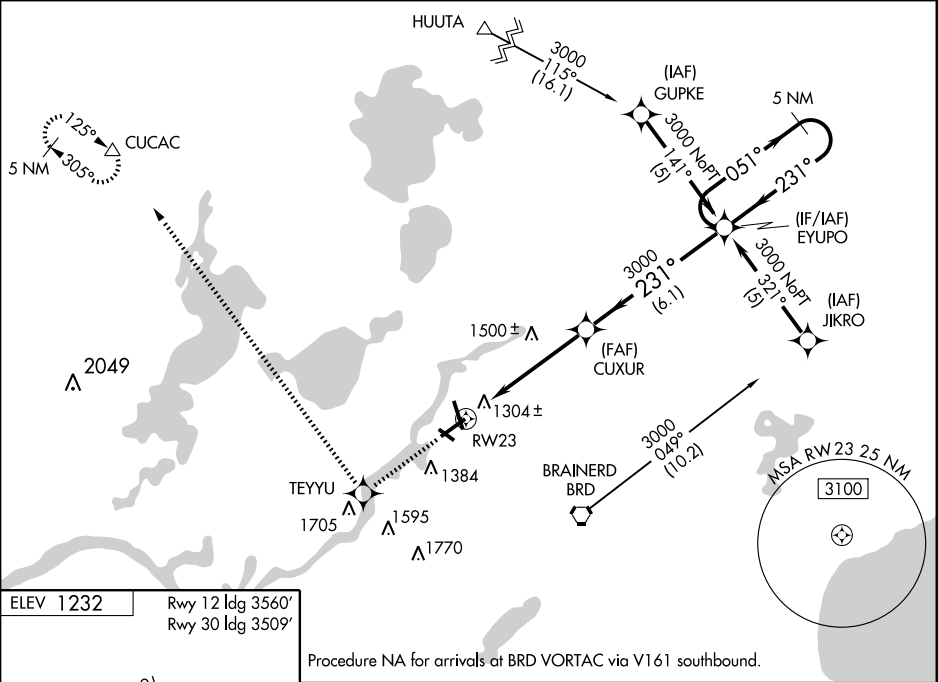
**⚠** For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (114°F). DME/DME RNP -0.3 NA. VDP and Baro-VNAV NA when using Aitkin Muni-Steve Kurtz Field altimeter setting. If local altimeter setting not received, use Aitkin Muni-Steve Kurtz Field altimeter setting and increase all DAs 52 feet and all MDAs 60 feet.

MALS

**A5**

MISSED APPROACH: Climb to 3300 direct TEYU and via 321° track to CUCAC and hold.

ASOS <b>126.775</b>	MINNEAPOLIS CENTER <b>118.05 239.0</b>	UNICOM <b>122.7 (CTAF) 0</b>
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Procedure NA for arrivals at BRD VORTAC via V161 southbound.

3300	TEYU	321° track	CUCAC	CUXUR	EYUPO	5 NM Holding Pattern
<b>*LNAV only</b>						
<b>*1.5 NM to RW23</b>						
RW23						
1.5 NM 3.8 NM 6.1 NM						
CATEGORY	A		B		C	D
LPV DA	1501-1/2		277 (300-1/2)			
LNAV/VNAV DA	1573-3/4		349 (400-3/4)			
LNAV MDA	1760-1/2 536 (600-1/2)		1760-1 536 (600-1)		1760-1 536 (600-1 1/4)	1760-1 536 (600-1 1/4)
CIRCLING	1760-1 528 (600-1)		1760-1 528 (600-1 1/2)		1800-2 568 (600-2)	1800-2 568 (600-2)

APP CRS	Rwy Idg	<b>3509</b>
<b>303°</b>	TDZE	<b>1225</b>
	Apt Elev	<b>1232</b>

# RNAV (GPS) RWY 30

## BRAINERD LAKES RGNL (BRD)

- T** If local altimeter setting not received, use Aitkin Muni-Steve Kurtz Field altimeter setting and increase all MDAs 60 feet.  
**A** DME/DME RNP-0.3 NA.  
 Visibility reduction by helicopters NA.

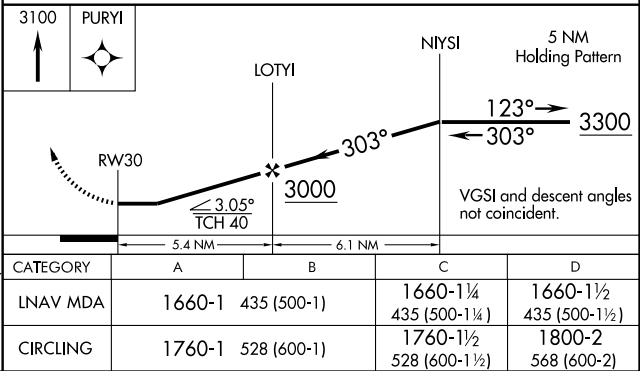
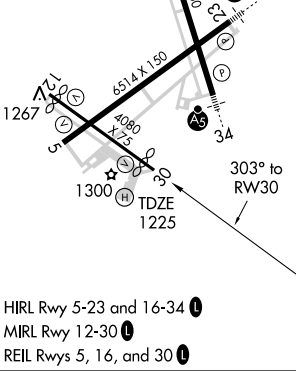
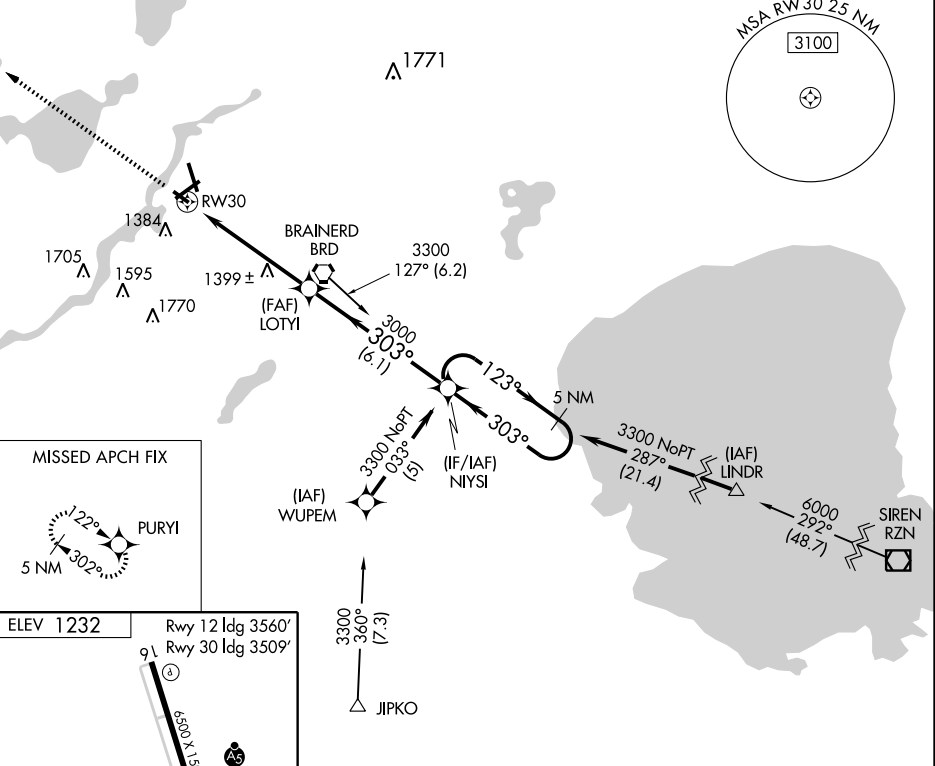
**MISSED APPROACH:** Climb to 3100 direct PURYI and hold.

ASOS  
**126.775**

MINNEAPOLIS CENTER  
118.05 239.0

UNICOM  
122.7 (CTAF) **L**

Procedure NA for arrivals at BRD VORTAC via V82-161 northwest bound.



WAAS CH <b>70711</b> <b>W34A</b>	APP CRS <b>340°</b>	Rwy Idg <b>6500</b> TDZE <b>1232</b> Apt Elev <b>1232</b>
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# RNAV (GPS) RWY 34

BRainerd LAKES RGNL (BRD)

**W** For inoperative MALSR, increase LNAV Cat D visibility to 1½ mile.  
Baro-VNAV NA when using Aikiti altimeter setting.

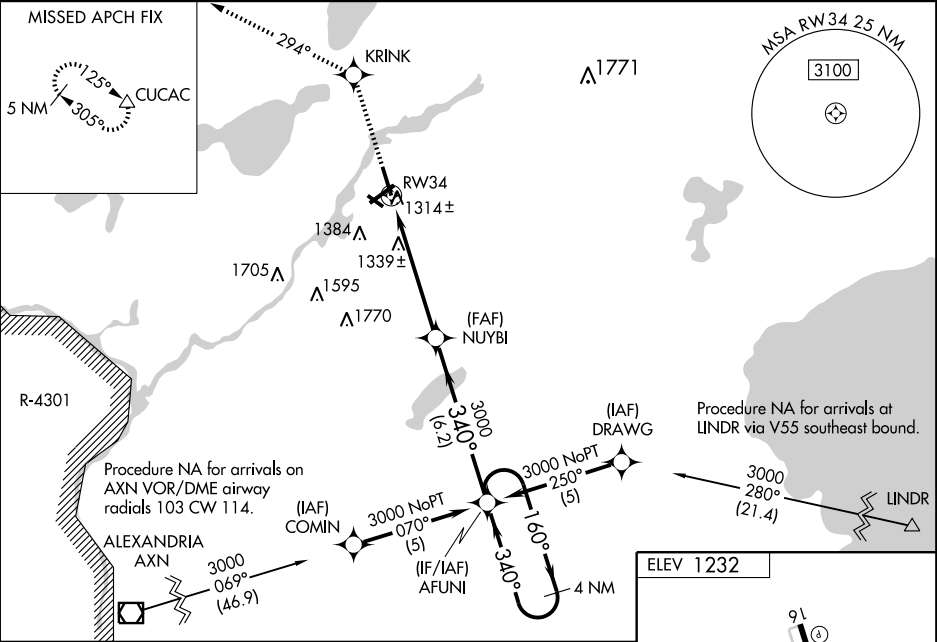
**A** For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (114°F). DME/DME RNP-0.3 NA.  
When local altimeter setting not received, use Aikiti altimeter setting and increase all DA 52 feet and all MDA 60 feet, increase LNAV/VNAV all Cats and LNAV Cat C and D visibility ½ mile. VDP NA when using Aikiti altimeter setting.  
For inoperative MALSR when using Aikiti altimeter setting, increase LNAV Cat D visibility to 1½ mile.

MALSR

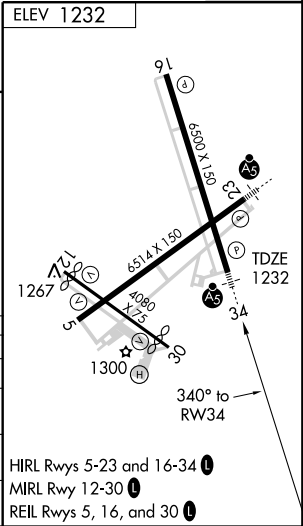
**A5**

MISSED APPROACH: Climb to 3300 direct KRINK and via 294° track to CUCAC and hold.

ASOS <b>126.775</b>	MINNEAPOLIS CENTER <b>118.05 239.0</b>	UNICOM <b>122.7 (CTAF) 1</b>
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3300	KRINK	294° track	CUCAC	NUYBI	AFUNI	4 NM Holding Pattern
<b>*LNAV only</b>						
<b>*1 NM to RW34</b>						
RW34						
1 NM 4.3 NM 6.2 NM						
CATEGORY	A	B	C	D		
LPV DA	1432-½ 200 (200-½)					
LNAV/VNAV DA	1584-¾ 352 (400-¾)					
LNAV MDA	1600-½ 368 (400-½)				1600-1 368 (400-1)	
CIRCLING	1760-1 528 (600-1)		1760-1½ 528 (600-1½)		1800-2 568 (600-2)	

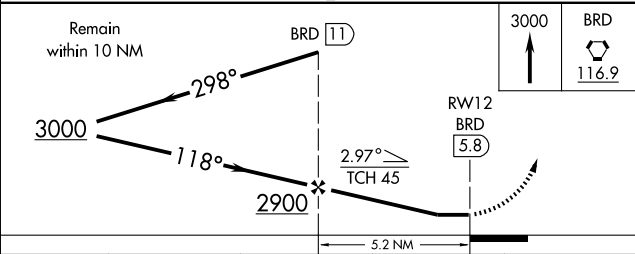
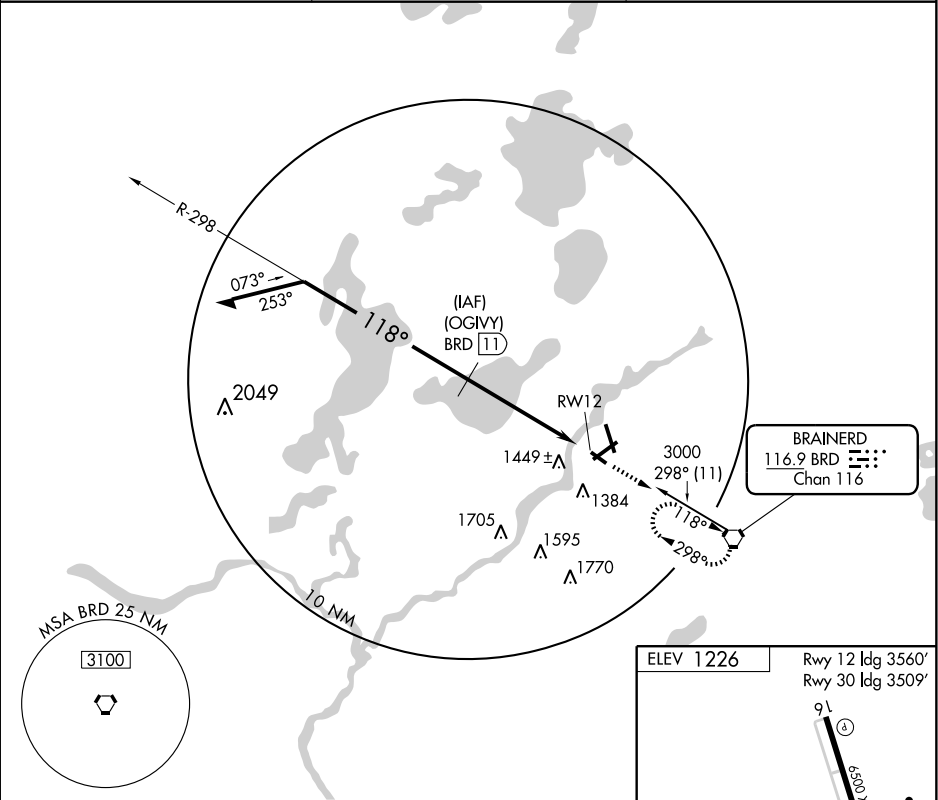


VORTAC BRD	APP CRS	Rwy Idg	3560
116.9	118°	TDZE	1225
Chan 116		Apt Elev	1226

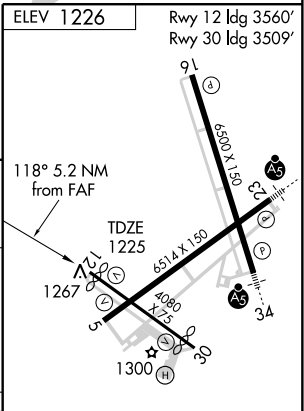
VOR/DME or GPS RWY 12  
BRAINERD LAKES RGNL (BRD)




	MISSED APPROACH: Climb to 3000 direct BRD VORTAC and hold.
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ASOS 126.775	MINNEAPOLIS CENTER 118.05 239.0	UNICOM 122.7 (CTAF) 
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CATEGORY	A	B	C	D
S-12	1700-1	475 (500-1)	1700-1½ 475 (500-1½)	1700-1½ 475 (500-1½)
CIRCLING	1760-1	534 (600-1)	1760-1½ 534 (600-1½)	1780-2 554 (600-2)



HIRL Rwy 5-23 and 16-34 
MIRL Rwy 12-30 
REIL Rws 5, 16, and 30 





VORTAC GEP <b>117.3</b> Chan <b>120</b>	APP CRS <b>266°</b>	Rwy Idg TDZE Apt Elev	<b>N/A</b> <b>N/A</b> <b>967</b>
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VOR or GPS-B  
BUFFALO MUNI (CFE)

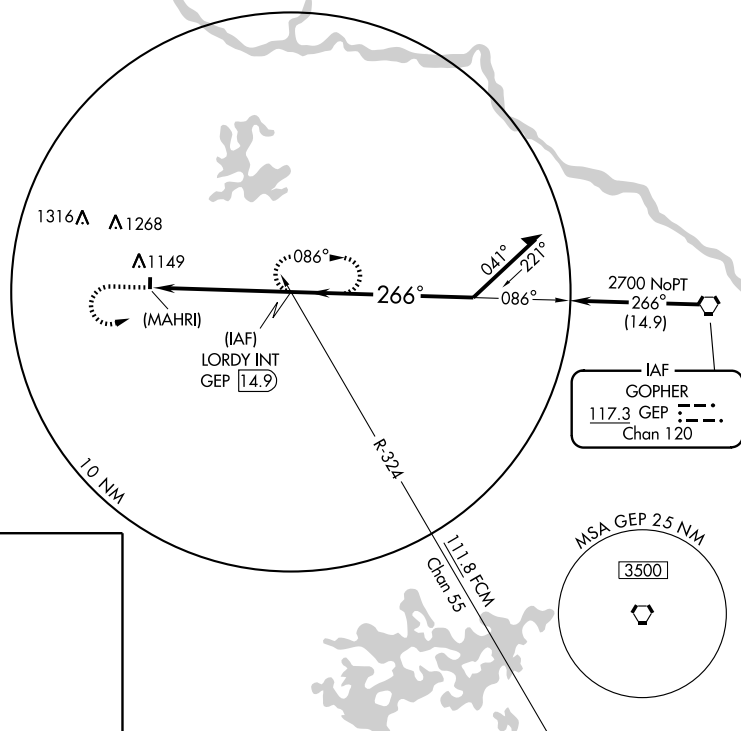
**ANA**

Use Princeton altimeter setting.

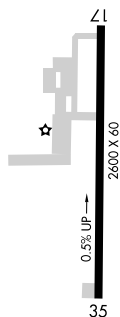
**MISSED APPROACH:** Climb to 2000 then climbing left turn to 2700 via GEP R-266 to LORDY Int and hold.

AWOS-3 <b>120.45</b>	MINNEAPOLIS APP CON <b>126.5 357.4</b>	GCO <b>121.725</b>	UNICOM <b>122.8</b> (CTAF)
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Λ 2454



ELEV 967



LIRL Rwy 17-35

FAF to MAP 5.1 NM						CATEGORY	A		B		C	D
Knots	60	90	120	150	180	CIRCLING	1560-1 593 (600-1)		1560-1½ 593 (600-1½)		NA	
Min:Sec	5:06	3:24	2:33	2:02	1:42							

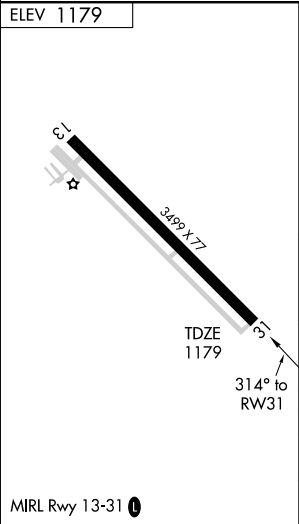
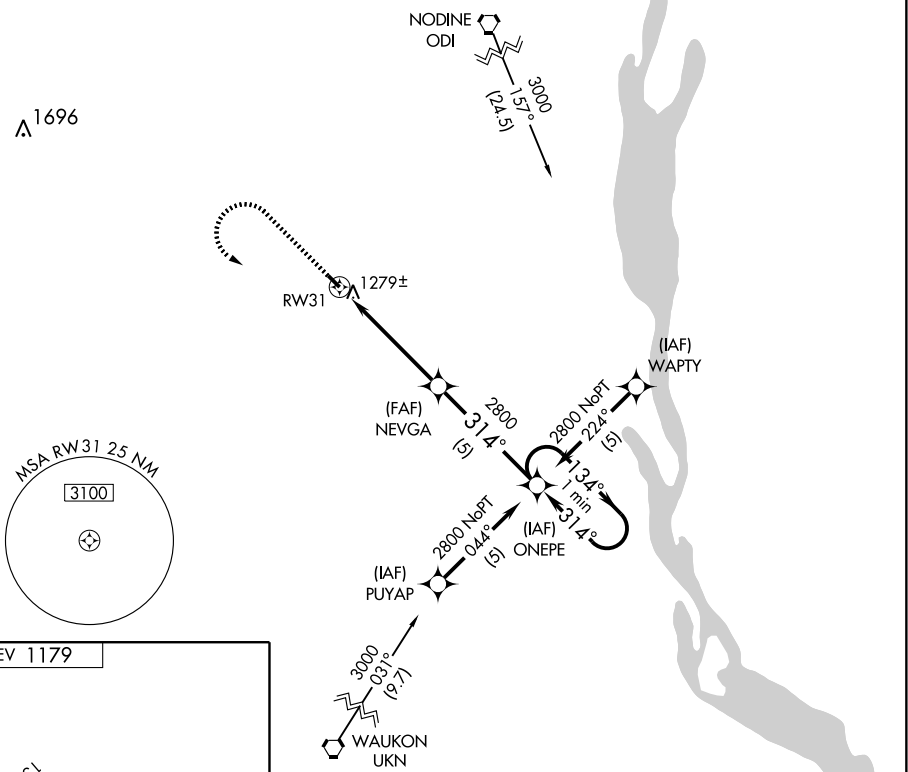


APP CRS	Rwy Idg	3499
314°	TDZE	1179
	Apt Elev	1179

GPS RWY 31

CALEDONIA/HOUSTON COUNTY (CHU)

NA Use La Crosse, WI altimeter setting.	MISSED APPROACH: Climb to 2500 then climbing left turn to 2800 direct ONEPE WP and hold.
MINNEAPOLIS CENTER 128.6 363.0	CTAF 122.9 0

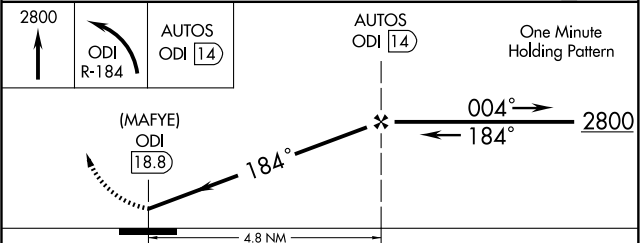
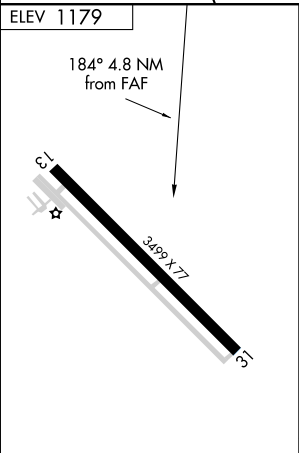
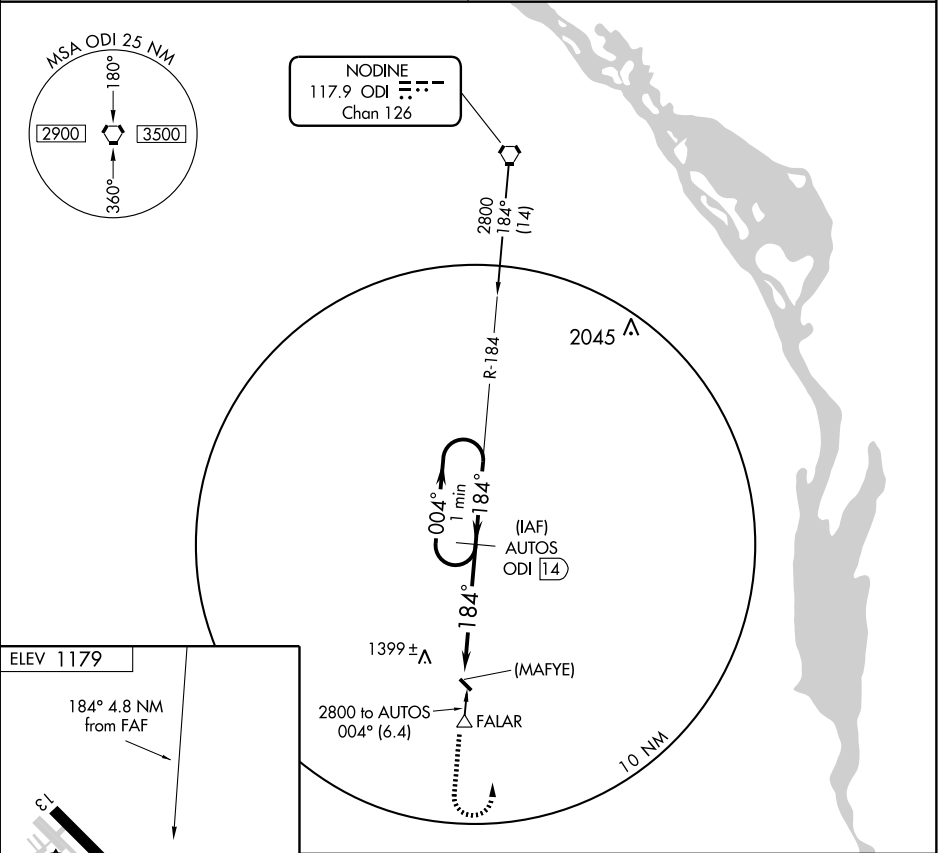



<div><div>2500</div><div>2800</div><div>ONEPE</div></div> <div>NEVGA</div> <div>ONEPE</div> <div>One Minute Holding Pattern</div>				
<div><div>RW31</div><div>314°</div><div>2800</div><div>134°</div><div>2800</div><div>314°</div></div>				
<div><div>5 NM</div><div>5 NM</div></div>				
CATEGORY	A	B	C	D
S-31	1660-1	481 (500-1)	1660-1¼ 481 (500-1¼)	NA
CIRCLING	1820-1	641 (700-1)	1820-1¾ 641 (700-1¾)	NA

VORTAC ODI <b>117.9</b> Chan <b>126</b>	APP CRS <b>184°</b>	Rwy Idg TDZE Apt Elev <b>N/A</b> <b>N/A</b> <b>1179</b>
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VOR/DME or GPS-A  
CALEDONIA/HOUSTON COUNTY (CHU)

<b>NA</b> Use La Crosse, WI altimeter setting.	MISSED APPROACH: Climb to 2800 then left turn via ODI R-184 to AUTOS/14 DME and hold.
MINNEAPOLIS CENTER <b>128.6 363.0</b>	CTAF <b>122.9</b>



MIRL Rwy 13-31 	CATEGORY	A	B	C	D
	CIRCLING	1820-1	641 (700-1)	1820-1 3/4 641 (700-1 3/4)	NA

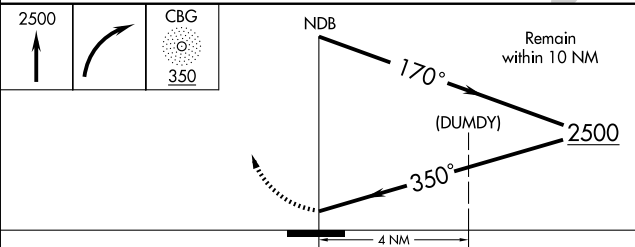
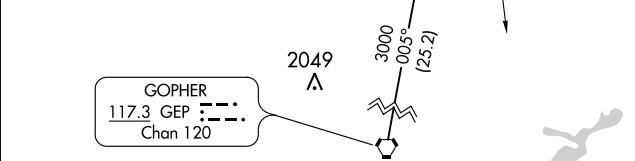
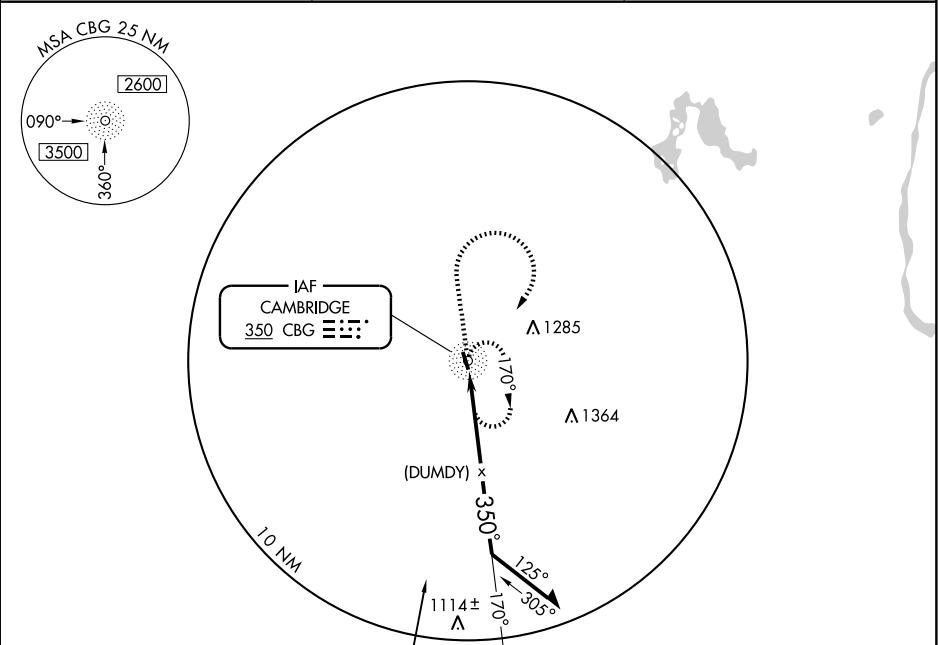
NDB CBG	APP CRS	Rwy Idg TDZE	4000
350	350°	Apt Elev	945

# NDB or GPS RWY 34

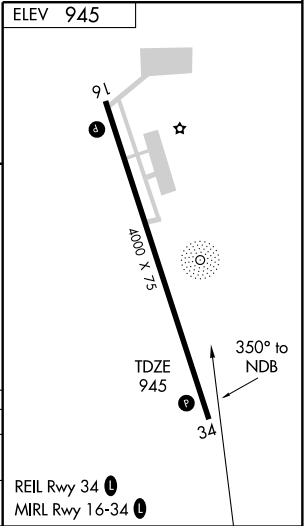
CAMBRIDGE MUNI (CBG)

▲ NA	MISSED APPROACH: Climb to 2500 then right turn direct CBG NDB and hold.
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AWOS-3 121.125	MINNEAPOLIS CENTER 121.05 397.9	UNICOM 122.8 (CTAF) 0
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CATEGORY	A	B	C	D
S-34	1480-1	535 (600-1)	1480-1½ 535 (600-1½)	NA
CIRCLING	1480-1	535 (600-1)	1480-1½ 535 (600-1½)	NA





NDB XCR <b>404</b>	APCH CRS <b>301°</b>	Rwy Idg TDZE Arpt Elev <b>6100</b> <b>1149</b> <b>1152</b>
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AL-5226 [USA]

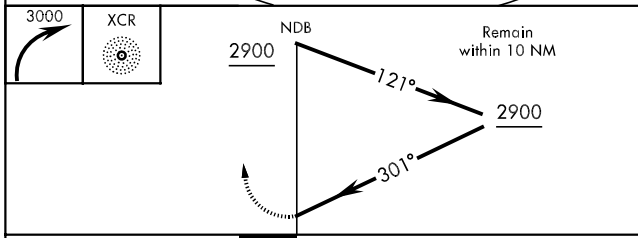
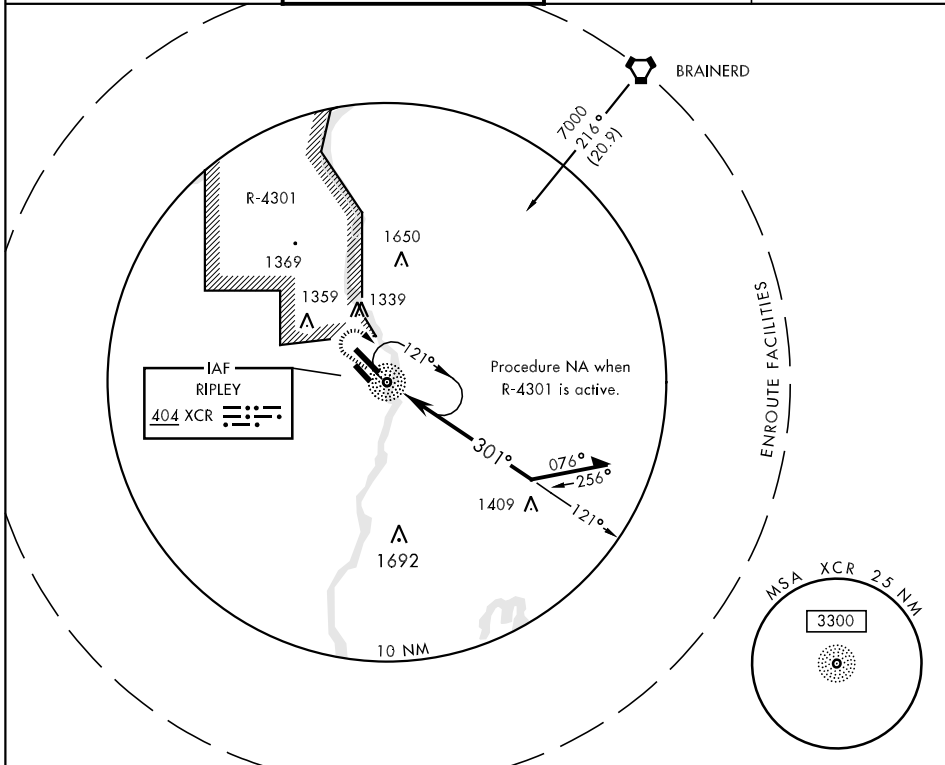
RAY S. MILLER AAF (KRYM)

<b>▽</b>	When local altimeter setting not received, use Little Falls altimeter setting and increase all MDA 40'.
<b>△</b> NA	Inop table does not apply to CAT C.

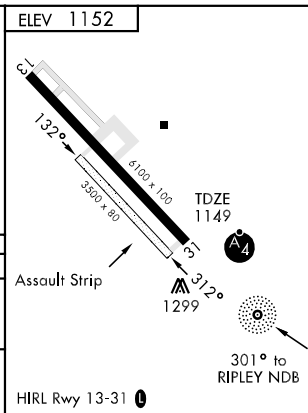


MISSED APPROACH: Climbing right turn to 3000 in XCR NDB holding pattern.

MINNEAPOLIS CENTER <b>118.05 239.0</b>	MILLER TOWER ★ <b>126.2 254.4 49.2</b>	CLNC DEL <b>126.2</b>	AWOS-3 <b>148.35</b>
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CATEGORY	A	B	C	D
S-31	1760-3/4 611 (700-3/4)	611 (700-3/4)	1760-1 3/4 611 (700-1 3/4)	1760-2 611 (700-2)
CIRCLING	1760-1 608 (700-1)	608 (700-1)	1760-1 3/4 608 (700-1 3/4)	1760-2 608 (700-2)



APCH CRS	Rwy Idg	6100
132°	TDZE	1152
	Arpt Elev	1152

AL-5226 [USA]

RAY S. MILLER AAF (KRYM)

TANA

DME/DME RNP-0.3 NA.

### Visibility reduction by helicopters NA.

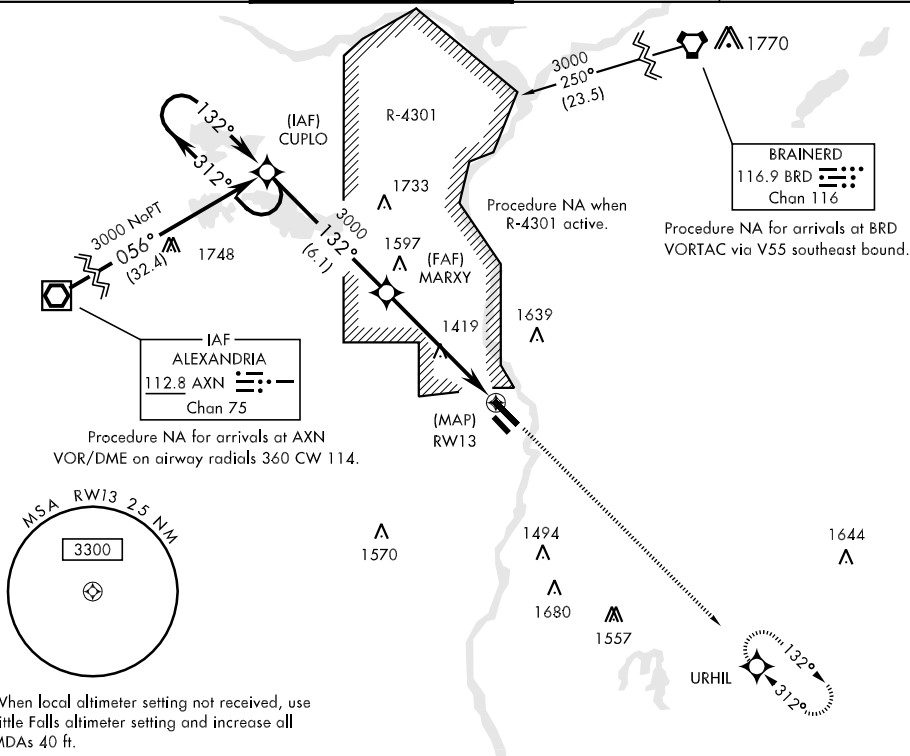
**MISSED APPROACH:** Climb to 3300 direct URHIL and hold.

MINNEAPOLIS CENTER  
118.05 239.0

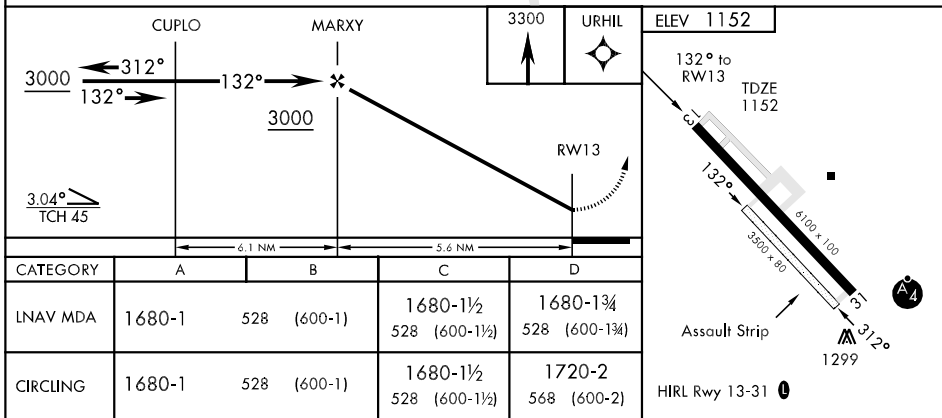
MILLER TOWER ★  
254.4 126.2 49.2

CLNC DEL  
**126.2**

AWOS-3  
148.35



NC-1, 22 OCT 2009 to 19 NOV 2009



CAMP RIPLEY, MINNESOTA

46°05'N-94°21'W

RAY S. MILLER AAF (KRYM)

Orig 08157

APCH CRS	Rwy Idg	6100
312°	TDZE	1149
	Arpt Elev	1152

AL-5226 [USA]

RAY S. MILLER AAF (KRYM)

TANA

\* When ALS inop, increase CAT D vis ¼ mile.

DME/DME RNP-0.3 NA.

MALS



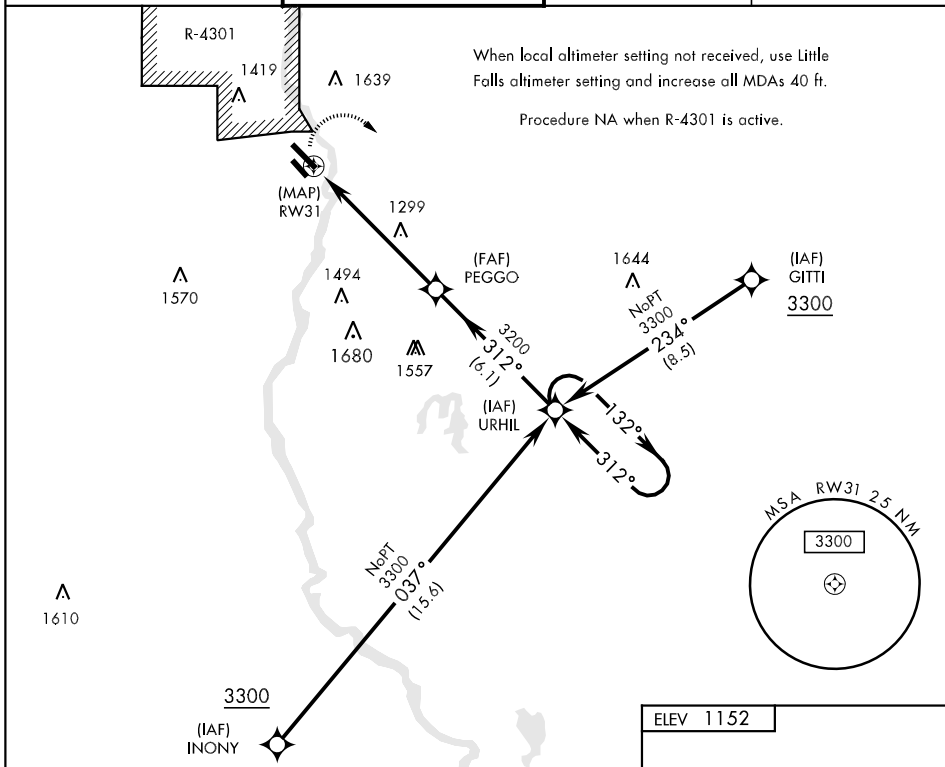
**MISSED APPROACH:** Climbing right turn to 3300 direct URHIL WPT and hold.



MINNEAPOLIS CENTER  
118.05 239.0

MILLER TOWER ★  
254.4 126.2L 49.2

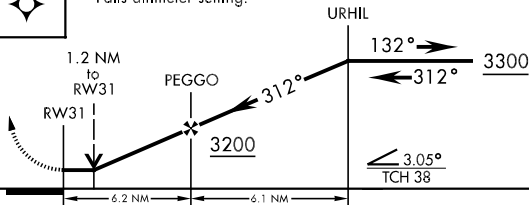
CLNC DEL  
**126.2**

AWOS-3  
148.35

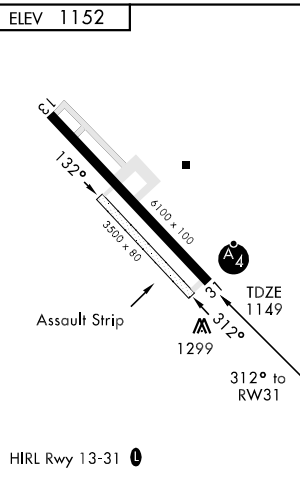


3300	URHIL
	

VDP NA when using Little Falls altimeter setting.



CATEGORY	A	B	C	D
LNAV MDA *	1580- $\frac{3}{4}$ 431 (500- $\frac{3}{4}$ )		1580-1 431 (500-1)	1580-1 $\frac{1}{4}$ 431 (500-1 $\frac{1}{4}$ )
CIRCLING	1620-1 468 (500-1)	1640-1 488 (500-1)	1640-1 $\frac{1}{2}$ 488 (500-1 $\frac{1}{2}$ )	1720-2 568 (600-2)



TACAN RYM	APCH CRS	Rwy Idg	<b>6100</b>
Chan <b>48</b>	<b>128°</b>	TDZE	<b>1152</b>
		Arpt Elev	<b>1152</b>

AL-5226 [USA]

RAY S. MILLER AAF (KRYM)

<b>T</b>	When local altimeter setting not received, use Little Falls altimeter setting and increase all MDA 40'.
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**MISSED APPROACH:** Climb to 2000 then climbing right turn to 4200 via RYM TACAN R-220 to GARYE (15 DME) and hold.

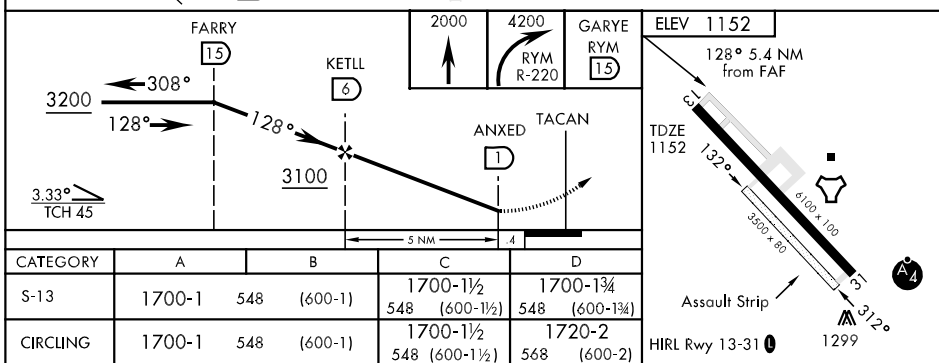
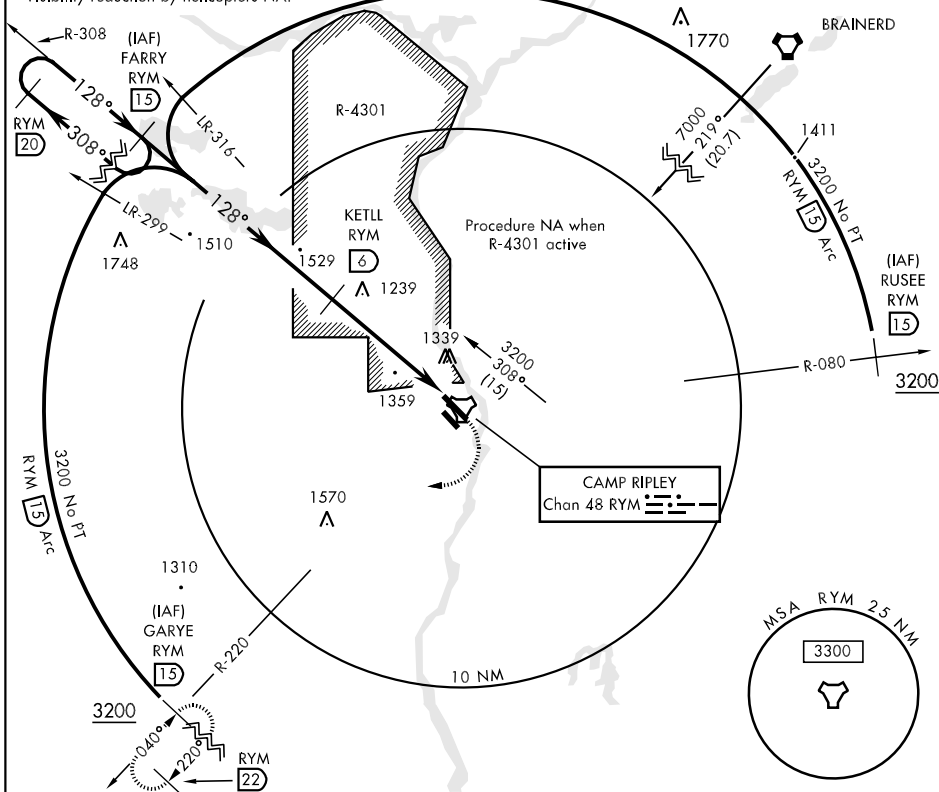
MINNEAPOLIS CENTER  
118.05 239.0

MILLER TOWER ★  
126.20 254.4 49.2

CLNC DEL  
**126.2**

AWOS-3  
148.35

### Visibility reduction by helicopters NA.



CAMP RIPLEY, MINNESOTA

46°05'N-94°21'W

RAY S. MILLER AAF (KRYM)

Amdt 2 09211

TAGANIRMA 10



TACAN RYM  
Chan **48**

APCH CR  
318°

Rwy Idg	<b>6100</b>
TDZE	<b>1149</b>
Arpt Elev	<b>1152</b>

AL-5226 [USA]

RAY S. MILLER AAF (KRYM)

<b>T</b>	When local altimeter setting not received, use Little Falls altimeter setting and increase all MDA 40' and INCR S-31 CAT D vis $\frac{1}{4}$ mile.
<b>A NA</b>	Inop table does not apply to CAT C.

MALSF

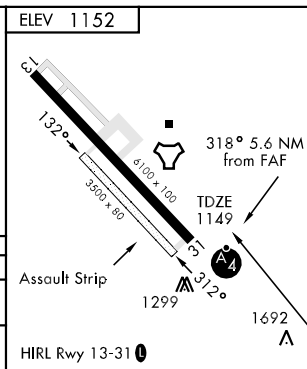
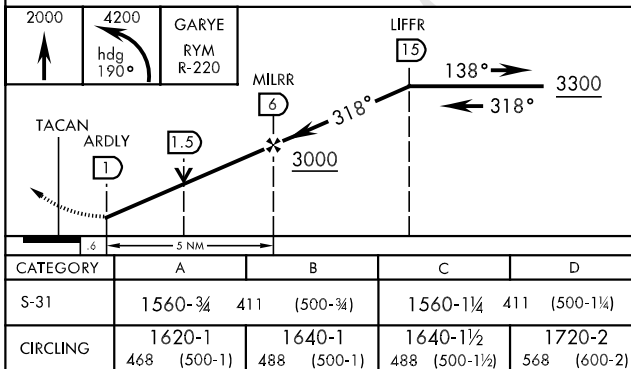
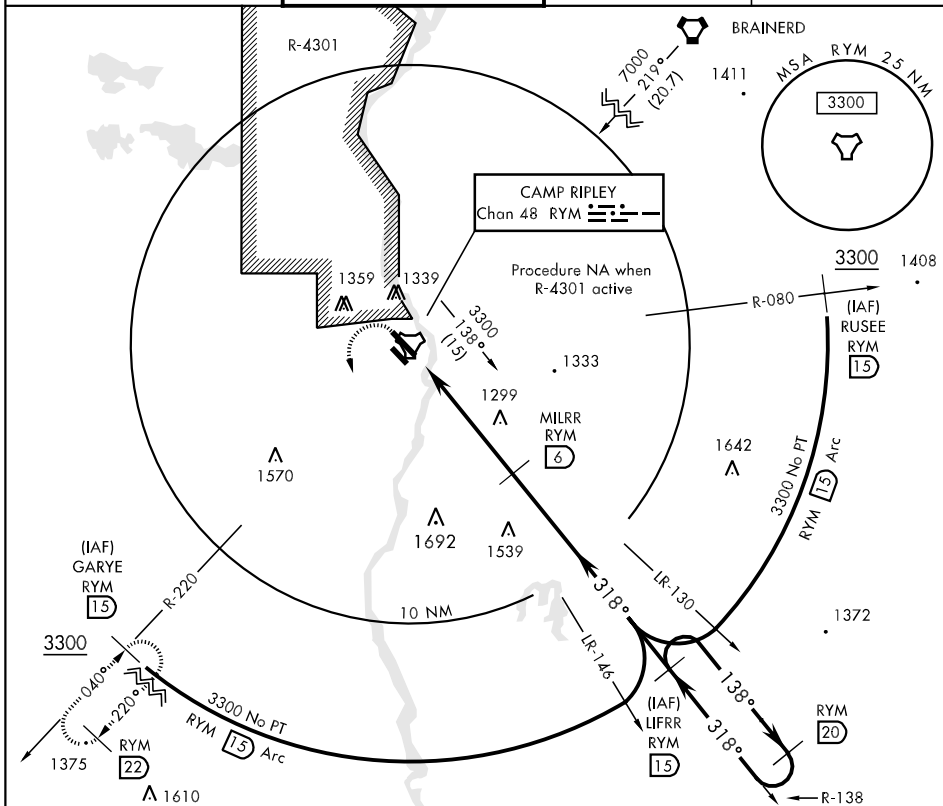
**MISSED APPROACH:** Climb to 2000 then climbing left turn to 4200 via hdg 190° and RYM R-220 to GARYE (15 DME) and hold.

MINNEAPOLIS CENTER  
118.05 239.0

MILLER TOWER ★  
126.2 254.4 49.2

CLNC DEL  
**126.2**

AWOS-3  
148.35



CAMP RIPLEY, MINNESOTA

46°05'N-94°21'W

RAY S. MILLER AAF (KRYM)

Amdt 2 09211

TACAN LBNM 01

APP CRS	Rwy Idg	4648
115°	TDZE	1193
	Apt Elev	1193

# RNAV (GPS) RWY 12

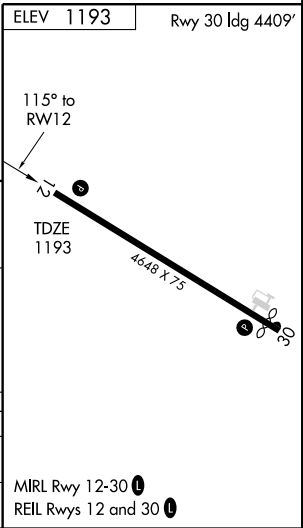
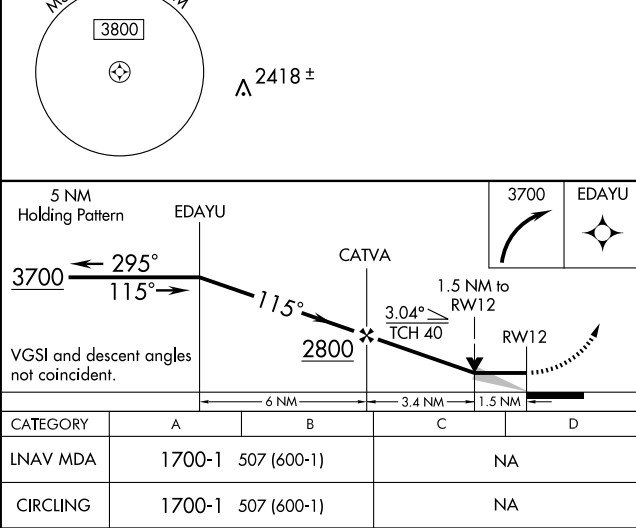
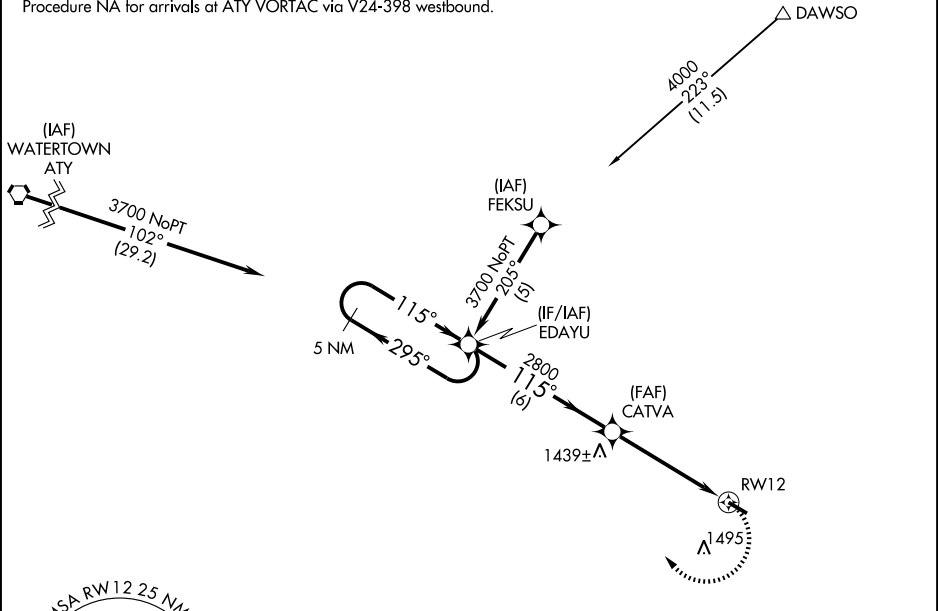
CANBY/MYERS FIELD (CNB)

**⚠** DME/DME RNP-0.3 NA.  
**⚠** VDP NA when using Lac Qui Parle County altimeter setting.  
If local altimeter setting not received, use Lac Qui Parle County altimeter setting and increase all MDAs 60 feet.

MISSED APPROACH: Climbing right turn to 3700 direct EDAYU and hold.

AWOS-3 118.575	MINNEAPOLIS CENTER 128.5 306.2	GCO 121.725	CTAF 122.9 <b>!</b>
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Procedure NA for arrivals at ATY VORTAC via V24-398 westbound.



APP CRS <b>295°</b>	Rwy Idg TDZE Apt Elev	<b>4409</b> <b>1191</b> <b>1193</b>
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## RNAV (GPS) RWY 30

CANBY/MYERS FIELD (CNB)

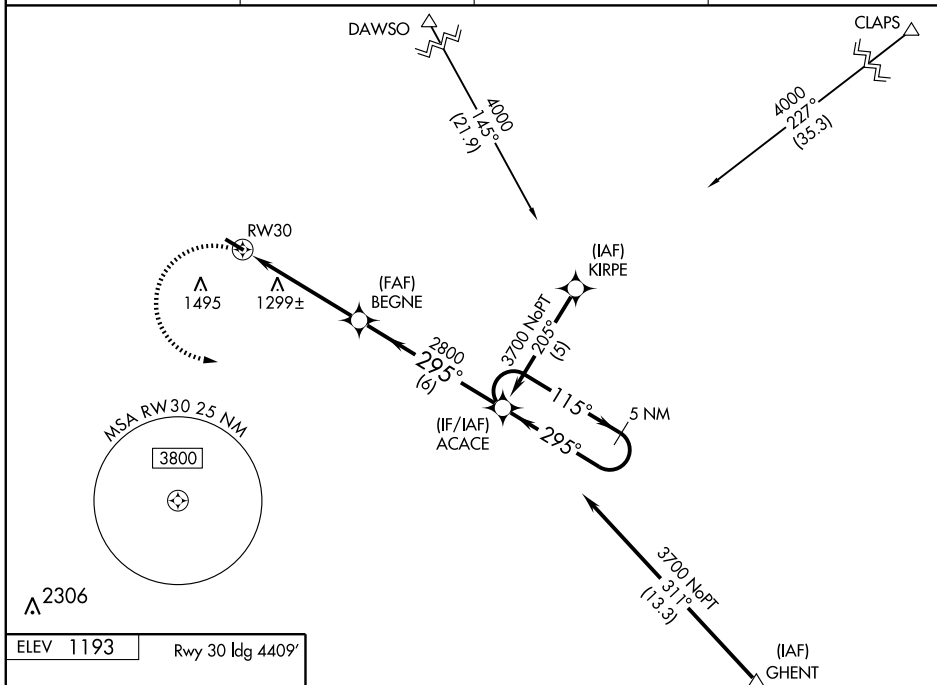
<b>T</b>	DME/DME RNP-0.3 NA.
<b>A</b>	<p>Visibility reduction by helicopters NA.</p> <p>If local altimeter setting not received, use Lac Qui Parle County altimeter setting and increase all MDAs 60 feet.</p>

MISSED APPROACH: Climbing left turn to 3700 direct ACACE and hold.

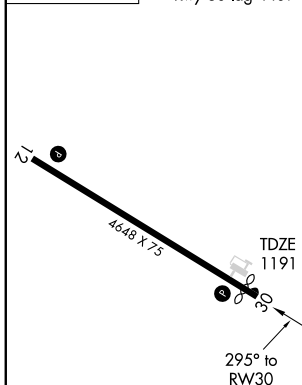
AWOS-3  
118.575

MINNEAPOLIS CENTER  
128.5 306.2

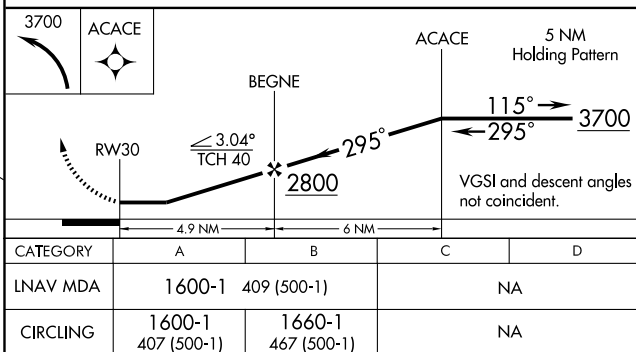
GCO  
121.725

CTAF  
122.9 **L**

ELEV 1193	Rwy 30 ldg 4409'
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### Procedure NA for arrivals at GHENT via V26 eastbound.



NDB COQ  
335

APP CRS  
**172°**

Rwy Idg	<b>4003</b>
TDZE	<b>1274</b>
Apt Elev	<b>1279</b>

NDB or GPS RWY 17  
CLOQUET CARLTON COUNTY (COQ)

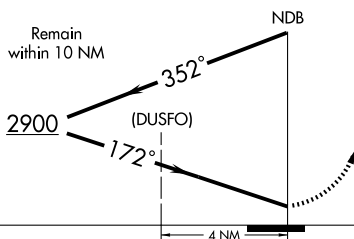
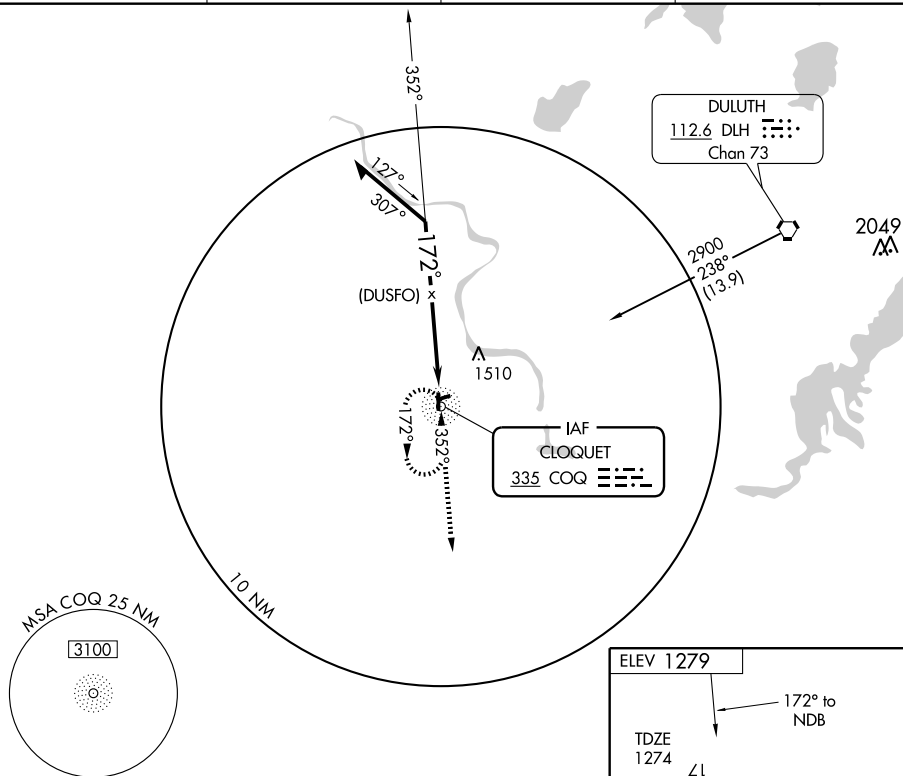


**A NA**

**MISSED APPROACH:** Climb to 2900 then direct COQ NDB and hold.

AWOS-3  
118.525

DULUTH APP CON★  
125.45 255.9

CLNC DEL  
**122,15**UNICOM  
122.8 (CTAF) **L**

2900



COQ



ELEV 1279

TDZE

12

172° to NDB

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1



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✓

C

3.

YS 7

17

19

MIRL Rwy 7-25 and 17-35 **L**  
REIL Rwy 17 **L**

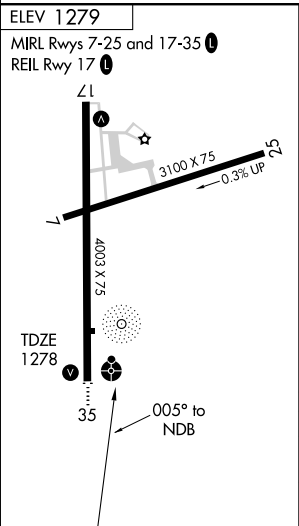
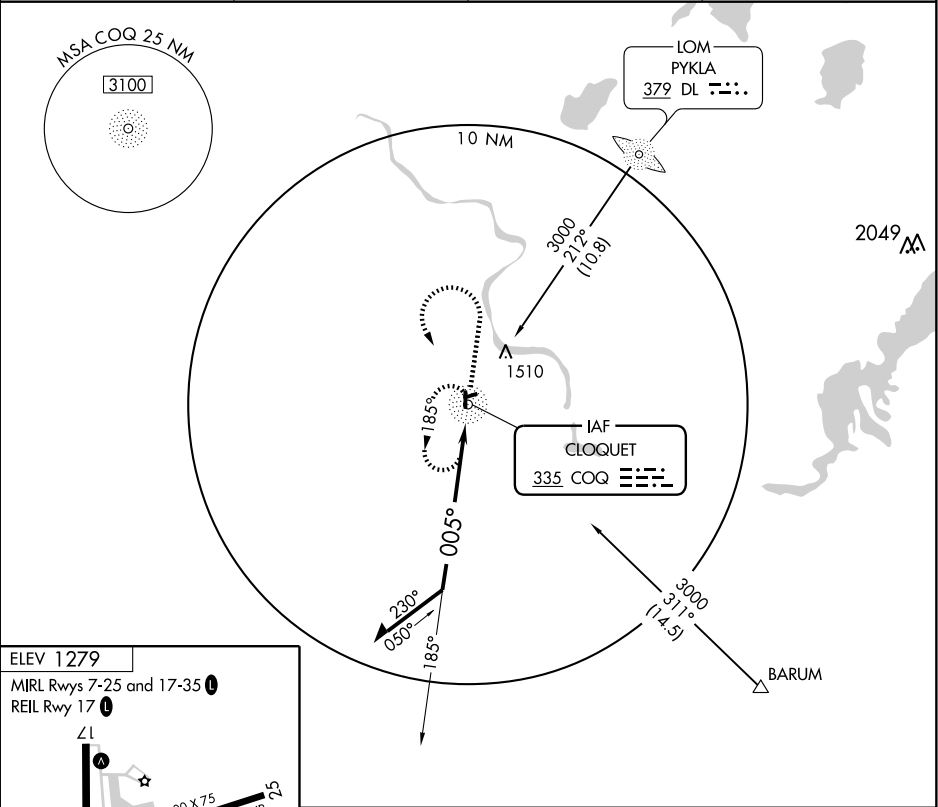
REIL Rwy 17 L

NDB COQ	APP CRS	Rwy Idg	4003
335	005°	TDZE	1278
		Apt Elev	1279

NDB RWY 35  
CLOQUET CARLTON COUNTY (COQ)

NA	When local altimeter setting not received, use Duluth Intl altimeter setting and increase all MDAs 60 feet and increase S-35 and Circling Cat. C visibilities ¼ mile.	ODALS	MISSED APPROACH: Climb to 2300 then climbing left turn to 3000 direct COQ NDB and hold, continue climb-in-hold to 3000.
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AWOS-3 118.525	DULUTH APP CON ★ 125.45 255.9	CINC DEL 122.15	UNICOM 122.8 (CTAF) 0
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<div>Remain within 10 NM</div> <div><div>3000</div><div>185°</div><div>005°</div><div>NDB</div><div><div>2300</div><div>3000</div><div>COQ</div><div><div></div><div>335</div></div></div></div>				
CATEGORY	A	B	C	D
S-35	1860-1	582 (600-1)	1860-1½ 582 (600-1½)	NA
CIRCLING	1860-1	581 (600-1)	1860-1½ 581 (600-1½)	NA

▼

DME/DME RNP-0.3 NA.

▲

VDP NA when using Duluth Intl altimeter setting.

When local altimeter setting not received, use Duluth Intl altimeter setting and increase all MDAs 60 feet and Cat. C Circling visibility ¼ mile.

ODALS

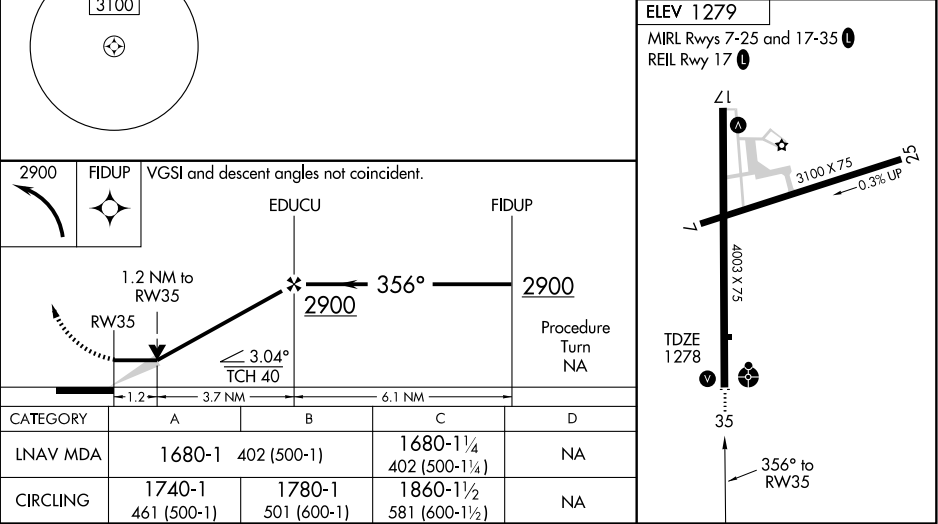
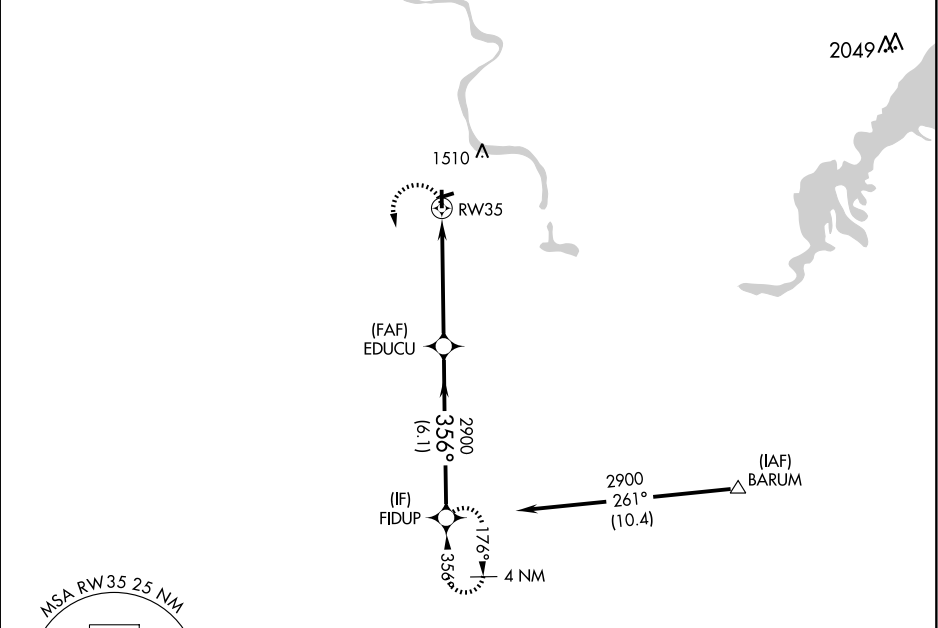
⬆

⬆

⬆

MISSED APPROACH: Climbing left turn to 2900 direct FIDUP and hold.

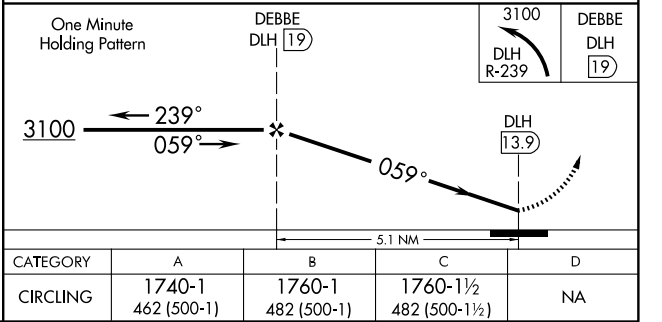
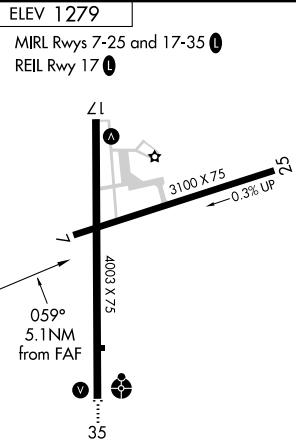
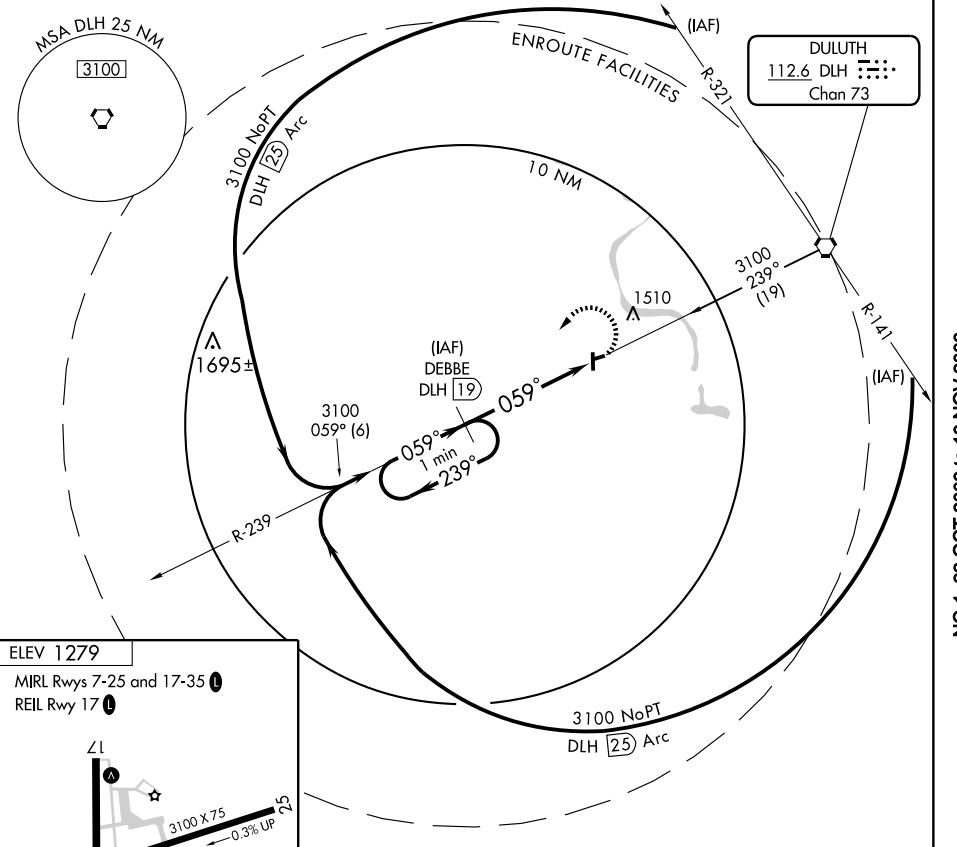
AWOS-3 118.525	DULUTH APP CON ★ 125.45 255.9	CLNC DEL 122.15	UNICOM 122.8 (CTAF) 0
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NA

MISSED APPROACH: Climbing left turn to 3100 via DLH R-239 to DEBBE DLH 19 DME and hold.

AWOS-3 118.525	DULUTH APP CON ★ 125.45 255.9	CLNC DEL 122.15	UNICOM 122.8 (CTAF) 0
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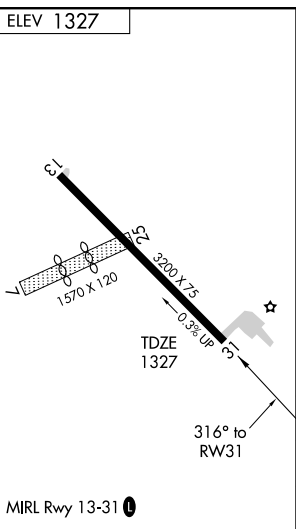
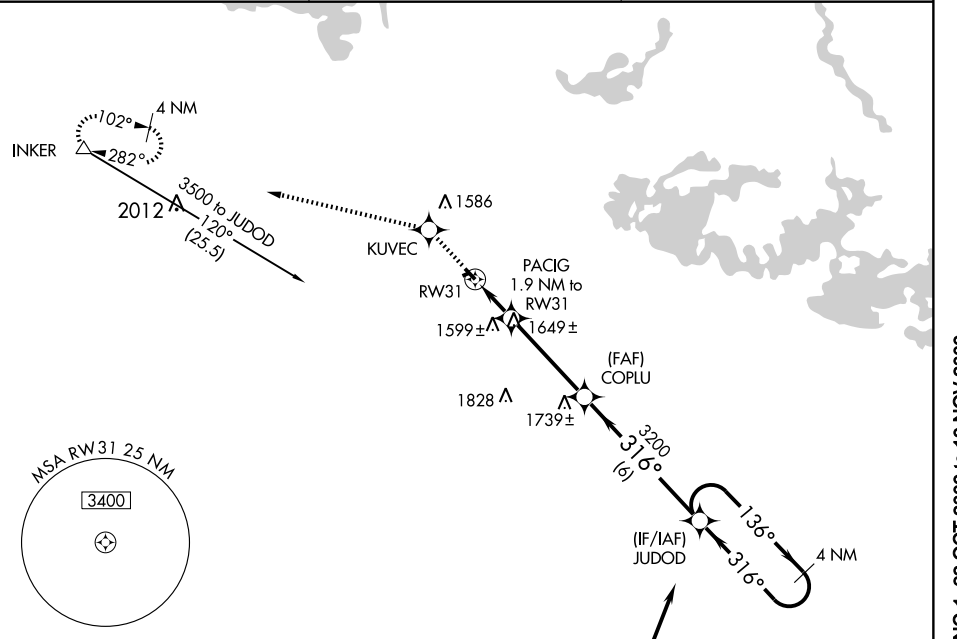
NC-1: 22 OCT 2009 to 19 NOV 2009

▲

DME/DME RNP- 0.3 NA.  
Procedure NA at night.

MISSED APPROACH: Climb to 3600 direct KUEVC and via 282° track to INKER and hold.

AWOS-3 118.175	PRINCETON RADIO 122.45	CTAF 122.9
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	3600	KUEVC	282° track	INKER					
					COPLU	JUDOD	4 NM Holding Pattern		
					PACIG 1.9 NM to RW31			136° → 3500	
					≤ 3.05° TCH 40°			← 316°	
					1960	3200			
					1.9 NM	3.8 NM	6 NM		
CATEGORY		A		B	C	D			
LNNAV MDA		1820-1	493 (500-1)			NA			
CIRCLING		1900-1	573 (600-1)			NA			

NC-1: 22 OCT 2009 to 19 NOV 2009

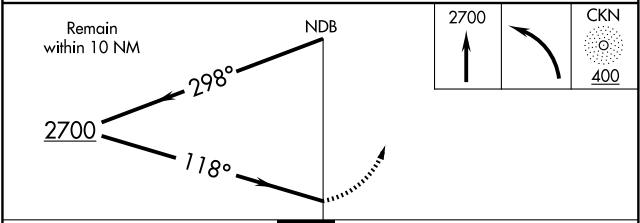
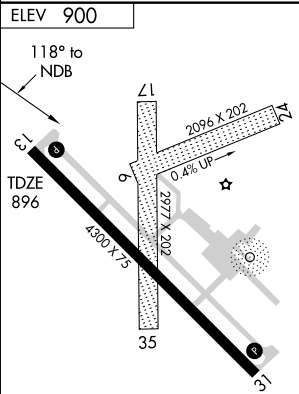
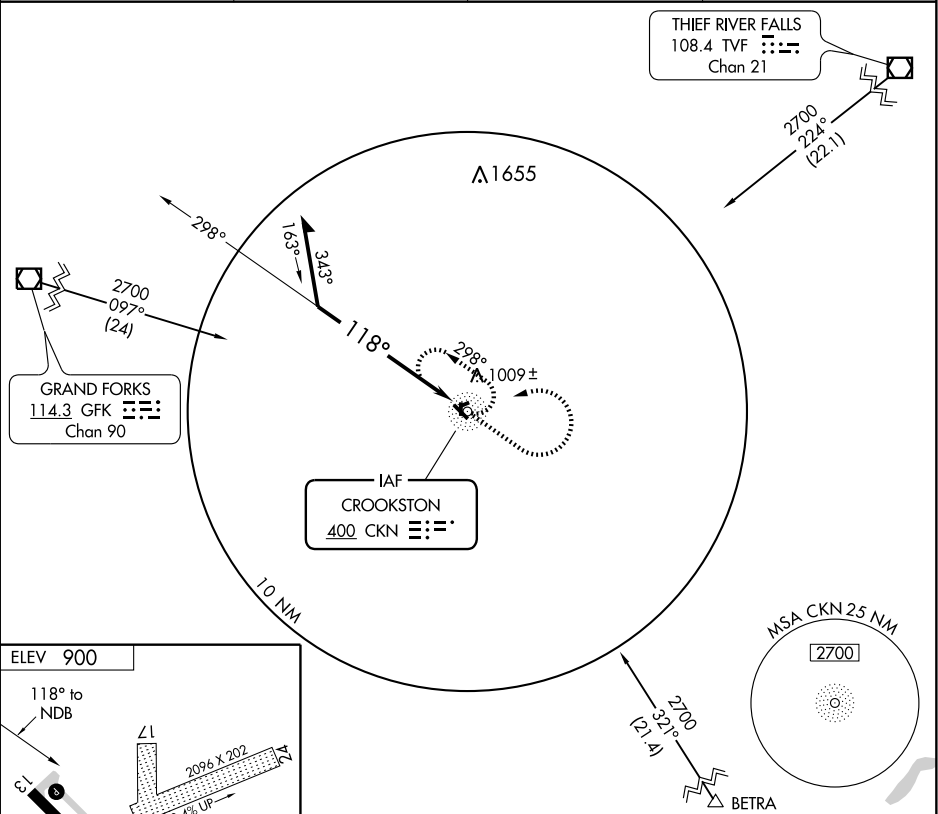


NDB RWY 13

CROOKSTON MUNI-KIRKWOOD FIELD (CKN)

NDB CKN	APP CRS	Rwy Idg	4300
400	118°	TDZE	896
		Apt Elev	900

<p><b>NA</b> If local altimeter setting not received, use Grand Forks altimeter setting and increase all MDAs 80 feet.</p>		<p>MISSED APPROACH: Climb to 2700 then left turn direct CKN NDB and hold.</p>	
AWOS-3 400	GRAND FORKS APP CON 118.1 318.1	CLNC DEL 118.15	UNICOM 122.7 (CTAF) <b>0</b>



REIL Rwy 13 and 31 **0**  
MIRL Rwy 13-31 **0**

CATEGORY	A	B	C	D
S-13	1360-1	464 (500-1)	1360-1 ¼ 464 (500-1 ¼)	NA
CIRCLING	1360-1	460 (500-1)	1360-1 ½ 460 (500-1 ½)	NA

WAAS CH <b>72704</b> <b>W13A</b>	APP CRS <b>128°</b>	Rwy Idg TDZE Apt Elev	<b>4300</b> <b>896</b> <b>900</b>
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RNAV (GPS) RWY 13

CROOKSTON MUNI-KIRKWOOD FIELD (CKN)

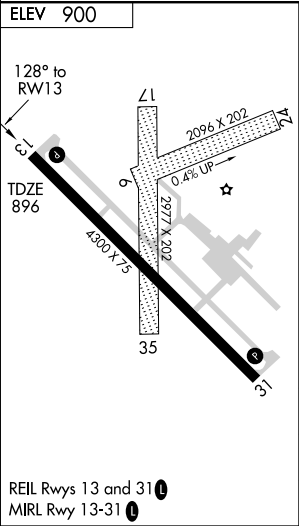
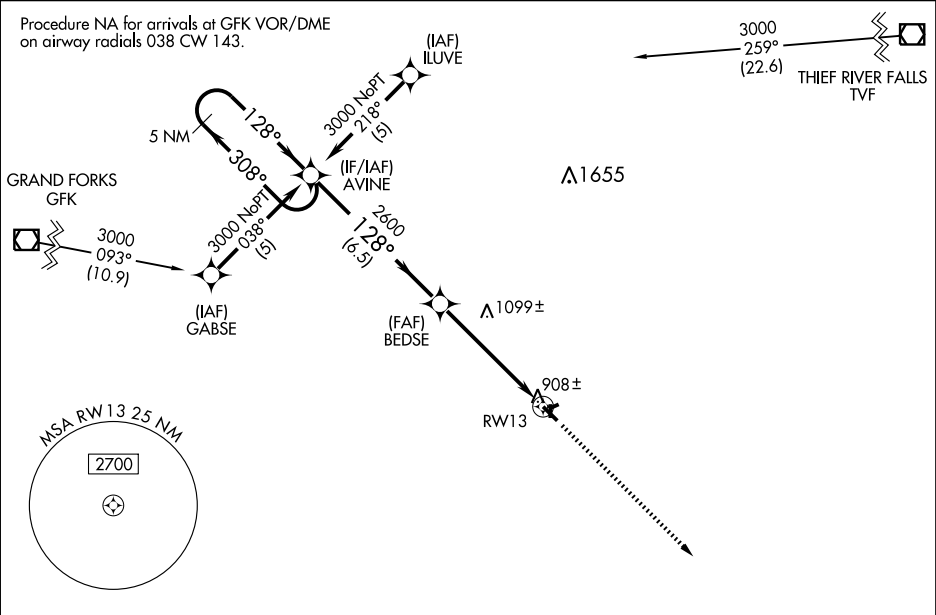
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Baro-VNAV NA when using Grand Forks altimeter setting.  
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 54°C (130°F). DME/DME RNP-0.3 NA.  
If local altimeter setting not received, use Grand Forks altimeter setting and increase all DAs 62 feet and all MDAs 80 feet.

MISSED APPROACH: Climb to 3000 direct FAPVU and hold.

AWOS-3 <b>400</b>	GRAND FORKS APP CON <b>118.1 318.1</b>	CLNC DEL <b>118.15</b>	UNICOM <b>122.7 (CTAF) 0</b>
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VGSi and RNAV glidepath not coincident.

		5 NM Holding Pattern	AVINE		BEDSE		RW13
		3000	308°	128°	2600		
		GS 3.00°	TCH 40				
			6.5 NM		5.2 NM		
CATEGORY		A	B	C	D		
LPV DA		1146-1	250 (300-1)		NA		
LNAV/VNAV DA		1210-1	314 (400-1)		NA		
LNAV MDA		1360-1	464 (500-1)	1360-1¼ 464 (500-1¼)	NA		
CIRCLING		1360-1	460 (500-1)	1360-1½ 460 (500-1½)	NA		

WAAS CH <b>69304</b> <b>W31A</b>	APP CRS <b>308°</b>	Rwy Idg TDZE Apt Elev	<b>4300</b> <b>897</b> <b>900</b>
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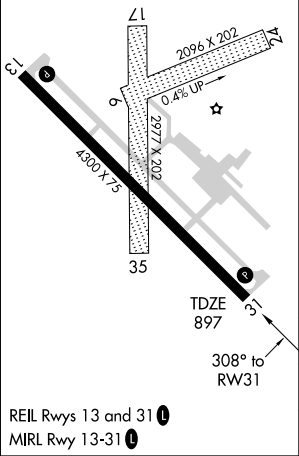
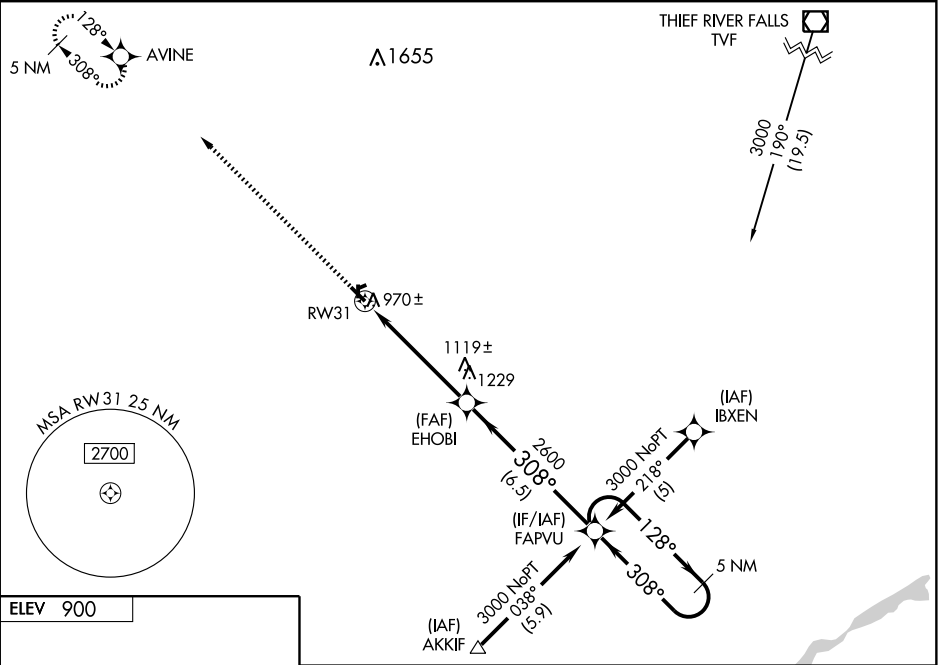
RNAV (GPS) RWY 31

CROOKSTON MUNI-KIRKWOOD FIELD (CKN)

**⚠** Baro-VNAV NA when using Grand Forks altimeter setting.  
**⚠** For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 54°C (130°F).  
If local altimeter setting not received, use Grand Forks altimeter setting and increase all DAs 62 feet and all MDAs 80 feet.  
DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA.

MISSED APPROACH: Climb to 3000 direct AVINE and hold.

AWOS-3 <b>400</b>	GRAND FORKS APP CON <b>118.1 318.1</b>	CLNC DEL <b>118.15</b>	UNICOM <b>122.7 (CTAF) 1</b>
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3000	AVINE	VGSI and RNAV glidepath not coincident.		5 NM Holding Pattern
		EHOBI	FAPVU	
	RW31			
		5.2 NM	6.5 NM	
CATEGORY	A	B	C	D
LPV DA	1157-1 260 (300-1)			NA
LNAV/VNAV DA	1320-1½ 423 (500-1½)			NA
LNAV MDA	1380-1	483 (500-1)	1380-1¼ 483 (500-1¼)	NA
CIRCLING	1380-1	480 (500-1)	1380-1½ 480 (500-1½)	NA

NC-1. 22 OCT 2009 to 19 NOV 2009

ELEV 899

C-1

4300 X 75

297° X 202

2096 X 202

0.4% UP

☆

35

31

TDZE 896

278° 5.9 NM from FAF

FAF to MAP 5.9 NM

	Knots	60	90	120	150	180
Min:Sec	5:54	3:56	2:57	2:22	1:58	

APP CRS	Rwy Idg	4500
135°	TDZE	1397
	Apt Elev	1397

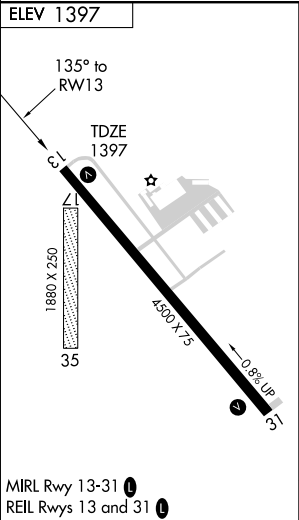
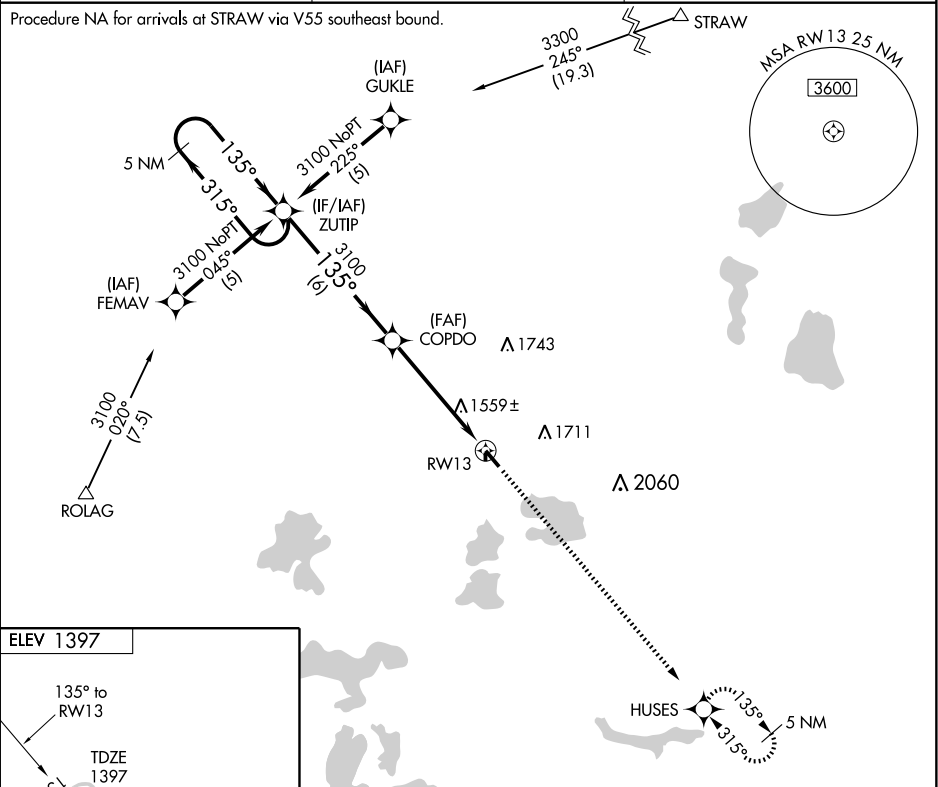
RNAV (GPS) RWY 13  
DETROIT LAKES-WETHING FIELD (DTL)

- When VGSI inoperative, straight-in/circling Rwy 13 procedure NA at night.
- DME/DME RNP -0.3 NA. Visibility reduction by helicopters NA.
- If local altimeter setting not received, use Park Rapids altimeter setting and increase DA/MDAs 100 feet.

MISSED APPROACH: Climb to 3100 direct HUSES and hold.

AWOS-3 111.2	PRINCETON RADIO 122.5	UNICOM 122.8 (CTAF) 1
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Procedure NA for arrivals at STRAW via V55 southeast bound.



5 NM Holding Pattern		ZUTIP	COPDO	3100	HUSES
3100		315°	135°	3100	
		135°			
		6 NM	5.1 NM		
CATEGORY	A	B	C	D	
RNAV MDA	1820-1	423 (500-1)	1820-1¼	423 (500-1¼)	
CIRCLING	1880-1	1940-1	1940-1½	2080-2¼	
	483 (500-1)	543 (600-1)	543 (600-1½)	683 (700-2¼)	

WAAS CH <b>86704</b> <b>W31A</b>	APP CRS <b>315°</b>	Rwy Idg TDZE Apt Elev	<b>4500</b> <b>1390</b> <b>1397</b>
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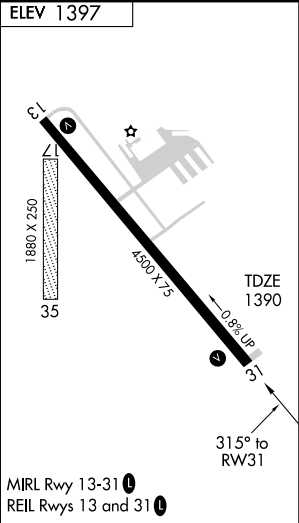
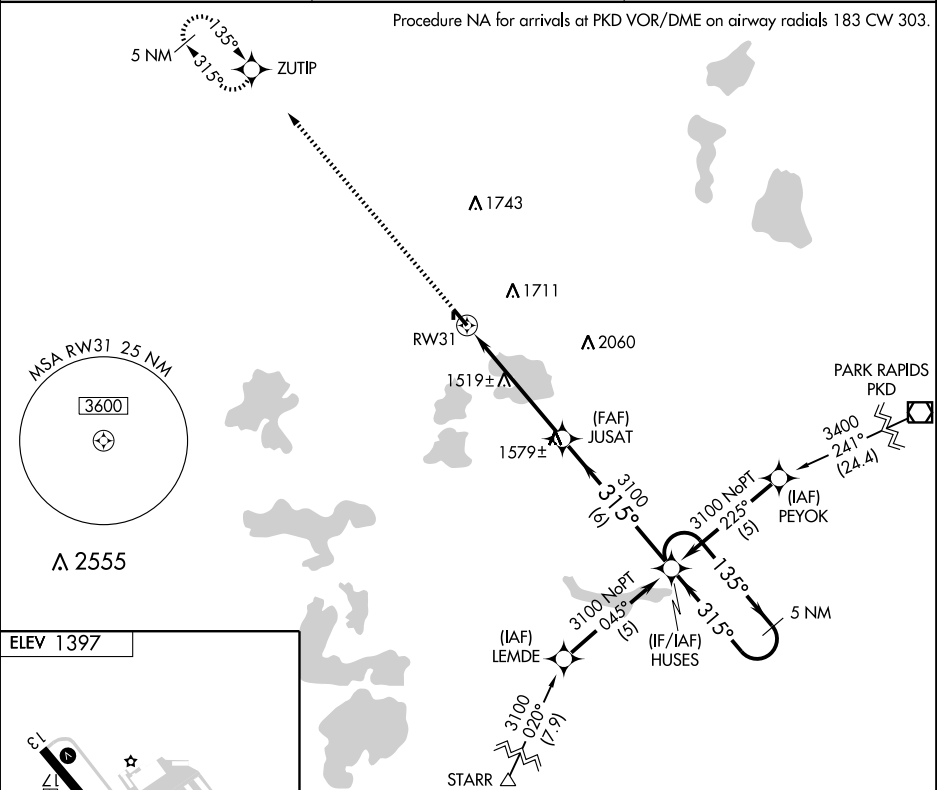
# RNAV (GPS) RWY 31

DETROIT LAKES-WETHING FIELD (DTL)

**⚠** DME/DME RNP- 0.3 NA. Visibility reduction by helicopters NA.  
**⚠** VDP NA when using Park Rapids altimeter setting.  
If local altimeter setting not received, use Park Rapids altimeter setting and increase DA/MDAs 100 feet.

MISSED APPROACH: Climb to 3100 direct ZUTIP and hold.

AWOS-3 <b>111.2</b>	PRINCETON RADIO <b>122.5</b>	UNICOM <b>122.8 (CTAF) 0</b>
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3100	ZUTIP	JUSAT	HUSES	5 NM Holding Pattern
*LNAV only	*1.2 NM to RW31	315°	135°	3100
		3100		GS 3.00° TCH 35
1.2	4.1 NM	6 NM		
CATEGORY	A	B	C	D
LPV DA	1654-1 264 (300-1)			
LNAV MDA	1780-1 390 (400-1)			1780-1¼ 390 (400-1¼)
CIRCLING	1880-1 483 (500-1)	1940-1 543 (600-1)	1940-1½ 543 (600-1½)	2080-2¼ 683 (700-2¼)

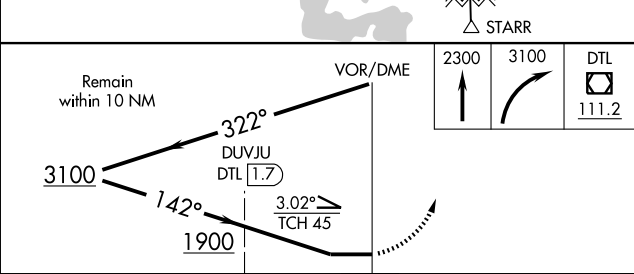
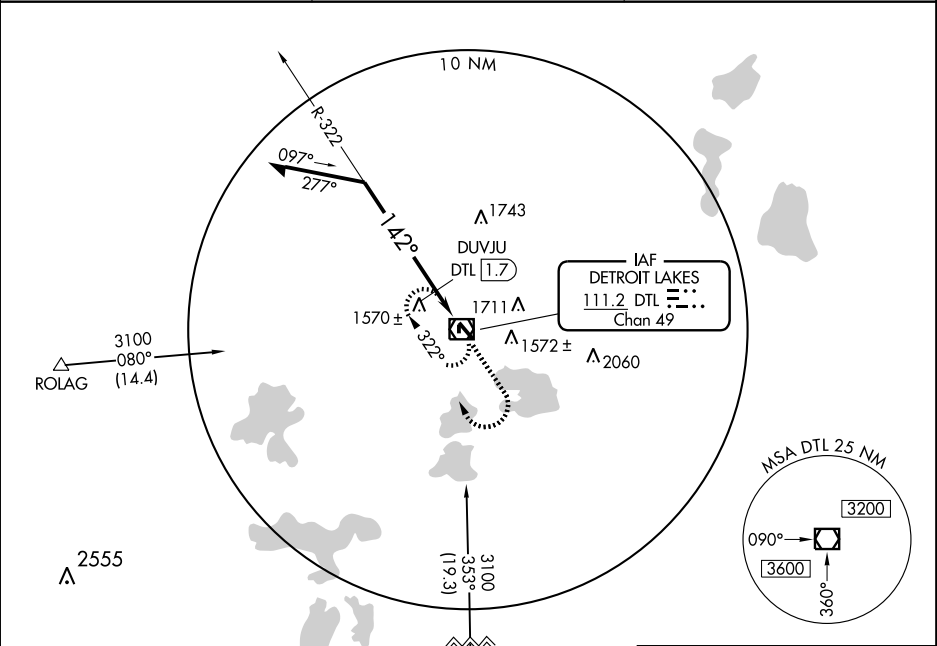
VOR RWY 13

DETROIT LAKES-WETHING FIELD (DTL)

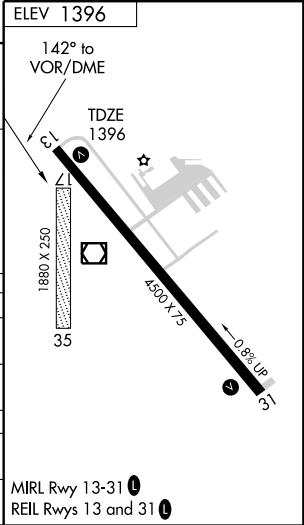
VOR/DME DTL	APP CRS	Rwy Idg	4500
111.2	142°	TDZE	1396
Chan 49		Apt Elev	1396

<div><div></div><div>NA</div></div>	MISSED APPROACH: Climb to 2300 then climbing right turn to 3100 direct DTL VOR/DME and hold.
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AWOS-3 111.2	PRINCETON RADIO 122.5	UNICOM 122.8 (CTAF) 0
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CATEGORY	A	B	C	D
S-13	1900-1	504 (600-1)	1900-1½	504 (600-1½)
CIRCLING	1900-1 504 (600-1)	1940-1 544 (600-1)	1940-1½ 544 (600-1½)	2080-2¼ 684 (700-2¼)
DUVJU FIX MINIMUMS				
S-13	1820-1	424 (500-1)	1820-1¼	424 (500-1¼)
CIRCLING	1880-1 424 (500-1)	1940-1 544 (600-1)	1940-1½ 544 (600-1½)	2080-2¼ 684 (700-2¼)



▼

▲ NA

MISSED APPROACH: Climb to 2500 then climbing left turn to 3100 direct DTL VOR/DME and hold.

AWOS-3 111.2	PRINCETON RADIO 122.5	UNICOM 122.8 (CTAF) <b>0</b>
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CATEGORY	A	B	C	D
S-31	2000-1	612 (700-1)	2000-1¾ 612 (700-1¾)	2000-2 612 (700-2)
CIRCLING	2000-1	604 (700-1)	2000-1¾ 604 (700-1¾)	2080-2¼ 684 (700-2¼)
DUWIZ FIX MINIMUMS				
S-31	1880-1	492 (500-1)	1880-1¼ 492 (500-1¼)	1880-1½ 492 (500-1½)
CIRCLING	1880-1 484 (500-1)	1940-1 544 (600-1)	1940-1½ 544 (600-1½)	2080-2¼ 684 (700-2¼)

NC-1: 22 OCT 2009 to 19 NOV 2009



APP CRS	Rwy Idg	<b>4500</b>
<b>164°</b>	TDZE	<b>1295</b>
	Apt Elev	<b>1305</b>

# RNAV (GPS) RWY 16

DODGE CENTER (TOB)

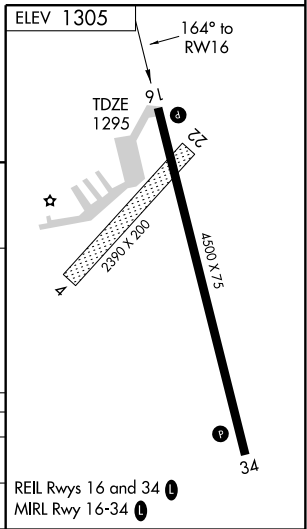
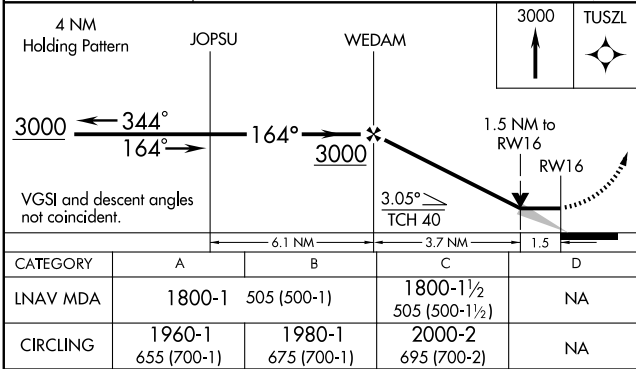
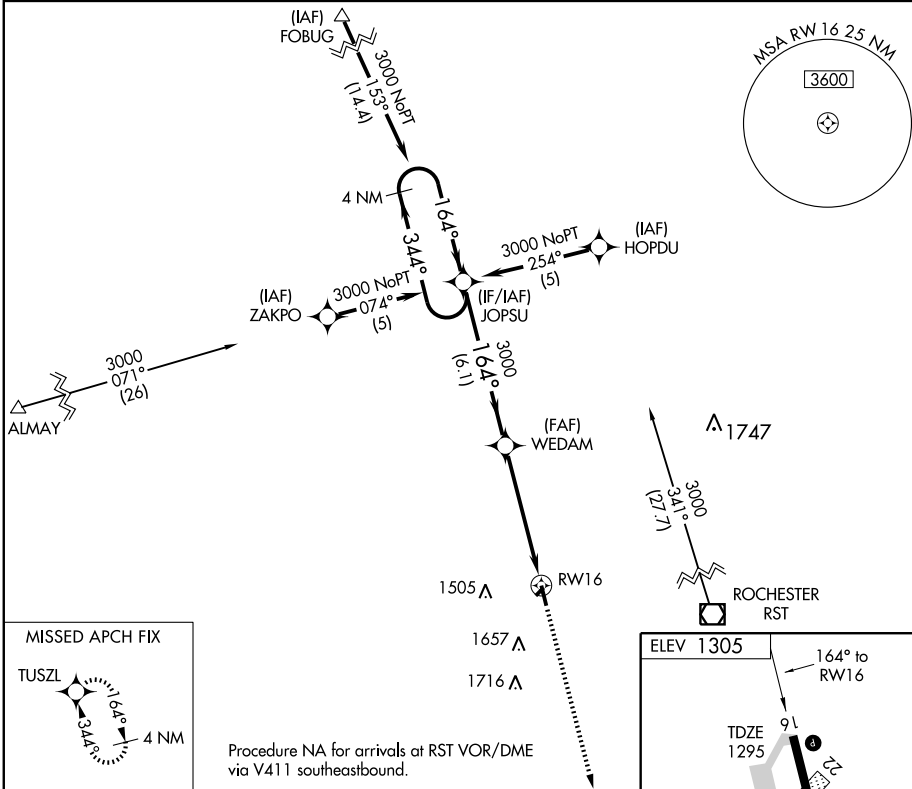
**T** DME/DME RNP- 0.3 NA.  
**A** VDP NA with Rochester Intl altimeter setting.  
 When local altimeter setting not received, use Rochester Intl altimeter setting and increase all MDA 40 feet.

**MISSED APPROACH:** Climb to 3000 direct TUSZL and hold.

AWOS-3  
**119,075**

ROCHESTER APP CON★  
119.8 251.125

CTAF  
**122,9** **L**



APP CRS	Rwy Idg	<b>4500</b>
<b>344°</b>	TDZE	<b>1305</b>
	Apt Elev	<b>1305</b>

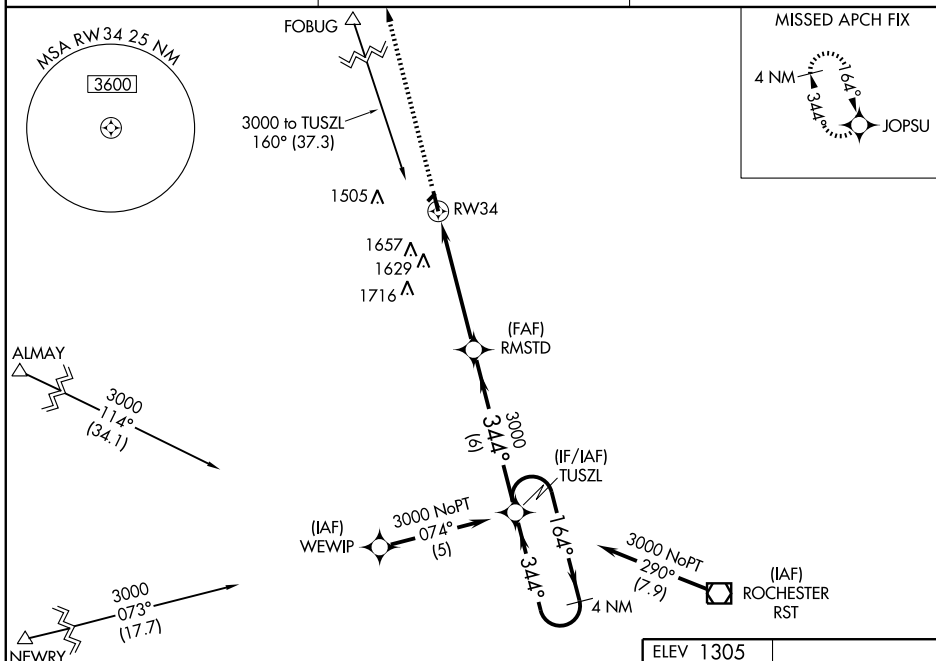
RNAV (GPS) RWY 34  
DODGE CENTER (TOB)

**T** DME/DME RNP-0.3 NA.  
**A** When local altimeter setting not received, use Rochester Intl altimeter setting and increase all MDA 40 feet, LNAV Cat C visibility ¼ mile. VDP NA with Rochester Intl altimeter setting.

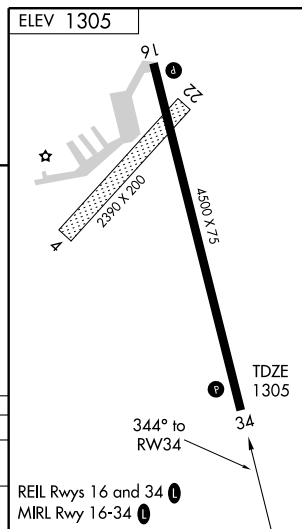
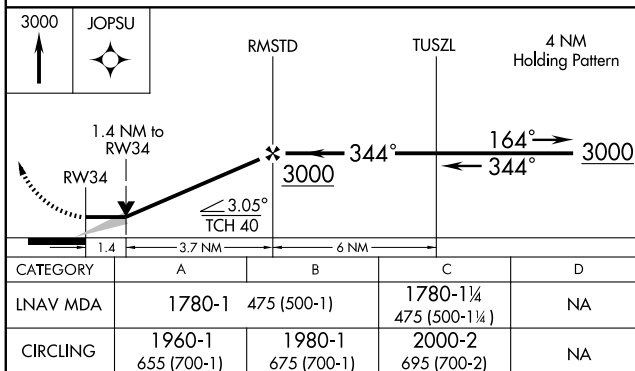
**MISSED APPROACH:** Climb to 3000 direct JOPSU and hold.

AWOS-3  
119.075

ROCHESTER APP CON ★  
119.8 251.125

CTAF  
122.9 

Procedure NA for arrivals at RST VOR/DME via V411  
southeastbound and arrivals at ALMAY via V505 northbound.



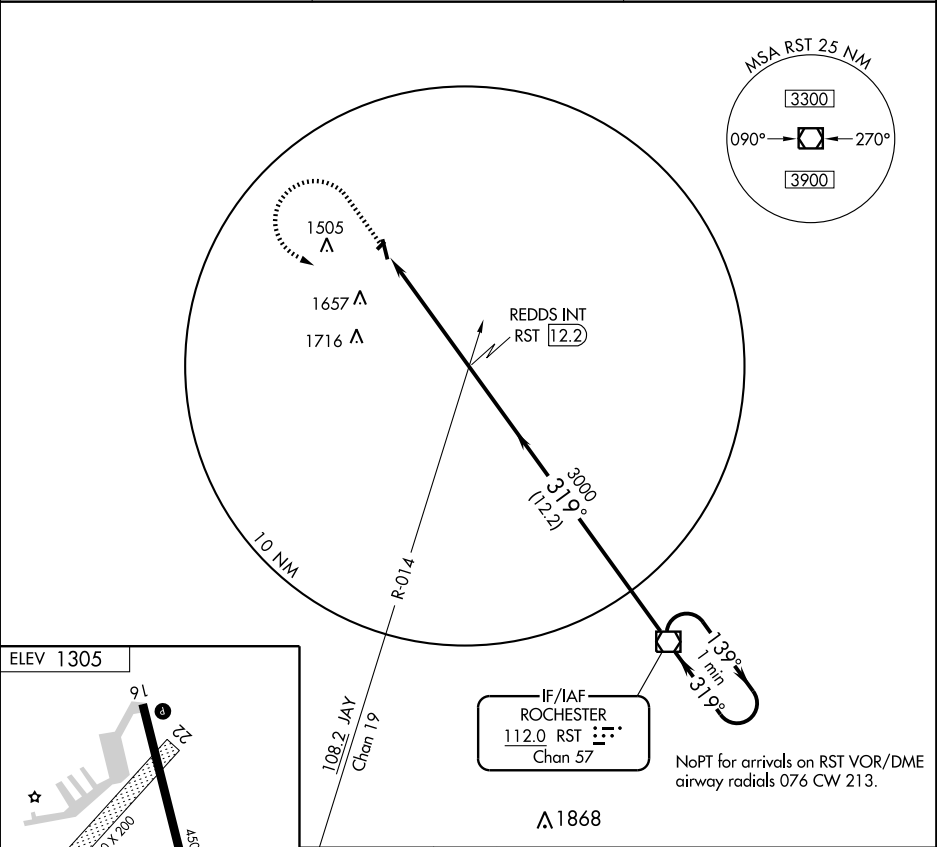
VOR/DME RST <b>112.0</b> Chan <b>57</b>	APP CRS <b>319°</b>	Rwy Idg TDZE Apt Elev <b>1305</b>	N/A N/A <b>1305</b>
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VOR-A  
DODGE CENTER (TOB)

**⚠** When local altimeter setting not received, use Rochester Intl altimeter setting and increase all MDA 40 feet.

**MISSED APPROACH:** Climb to 2500 then climbing left turn to 3000 via RST VOR/DME R-319 to RST VOR/DME and hold.

AWOS-3 <b>119.075</b>	ROCHESTER APP CON ★ <b>119.8 251.125</b>	CTAF <b>122.9 0</b>
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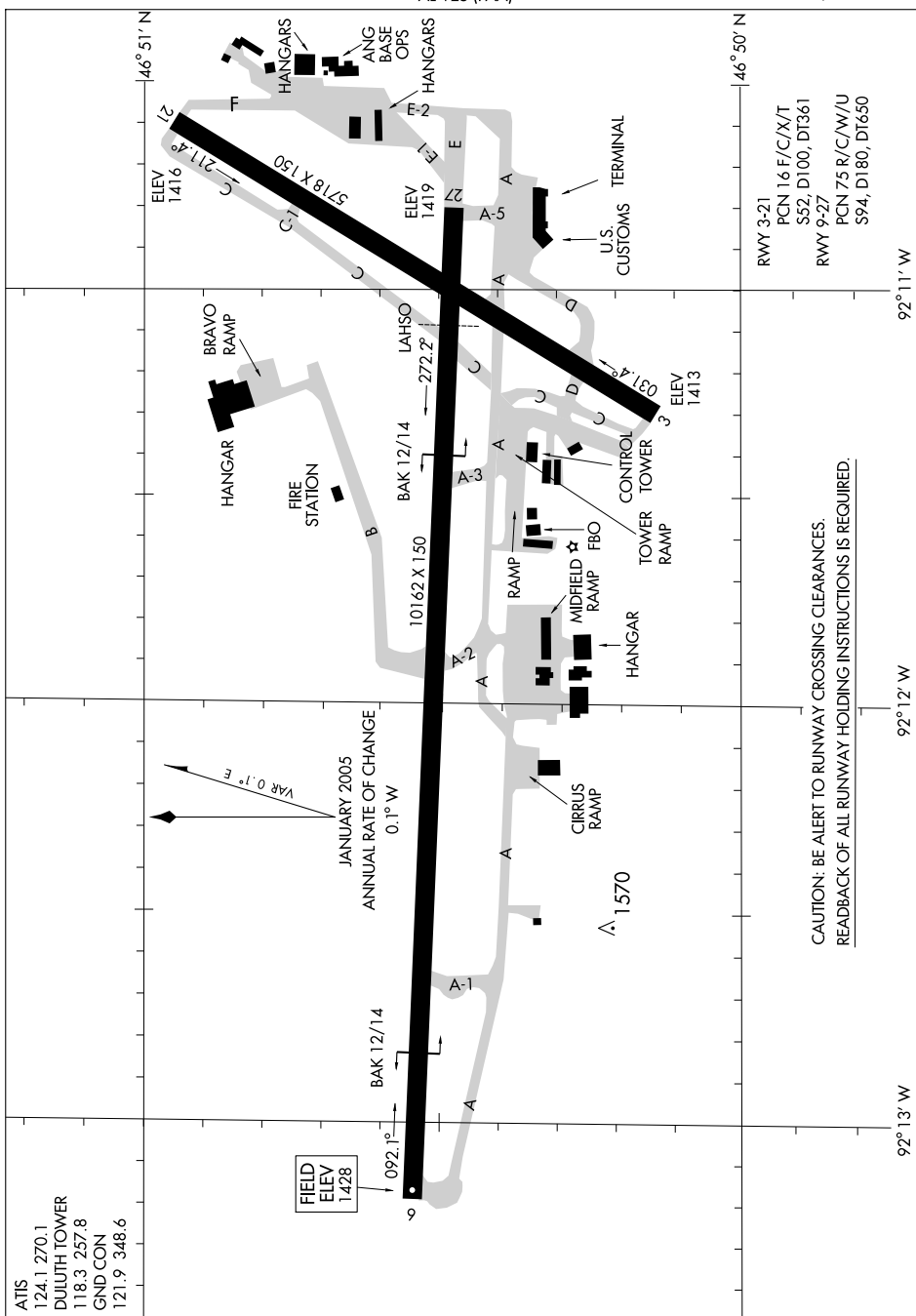


FAF to MAP 4.8 NM					CATEGORY		A	B	C	D
REIL Rwys 16 and 34 MIRL Rwy 16-34					CIRCLING		1960-1 655 (700-1)	1980-1 675 (700-1)	2000-2 695 (700-2)	NA
Knots	60	90	120	150	180					
Min:Sec	4:48	3:12	2:24	1:55	1:36					

# AIRPORT DIAGRAM

AL-125 (FAA)

DULUTH INTL (DLH)  
DULUTH, MINNESOTA



NC-1, 22 OCT 2009 to 19 NOV 2009

AL-125 (FAA)

LOC I-JUD <b>108.7</b>	APP CRS <b>270°</b>	Rwy Idg <b>10162</b> TDZE <b>1421</b> Apt Elev <b>1428</b>
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# COPTER ILS or LOC RWY 27

DULUTH INTL (DLH)



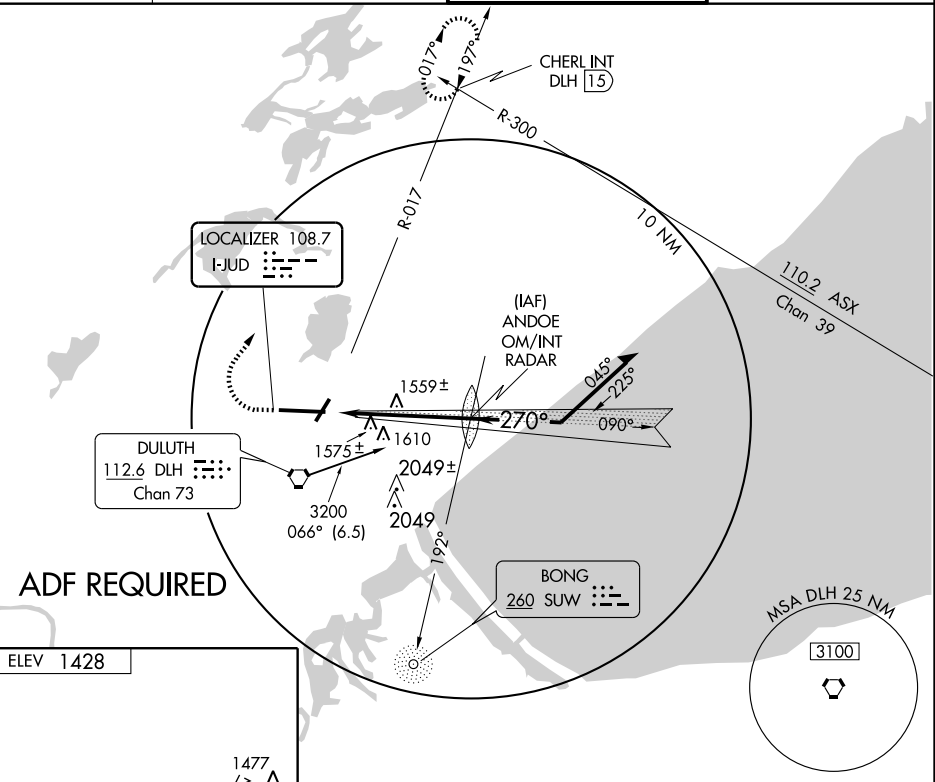
ASR For inoperative MALSR increase RVR to 2400.

MALSR



**MISSED APPROACH:** Climb to 3000 then climbing right turn to 4500 via DLH R-017 to CHERL Int/DLH 15 DME and hold.

ATIS 124.1 270.1	DULUTH APP CON ★ 125.45 255.9	DULUTH TOWER 118.3 257.8	GND CON 121.9 348.6
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NC-1-22 OCT 2009 to 19 NOV 2009

ELEV 1428

1477

1451

1570

1492

1485

1522

1461

1559 ±

10.162 X 150

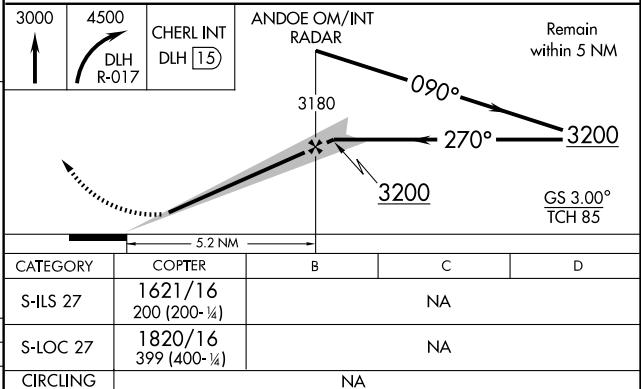
1519 X 150

270° 5.2 NM from FAF

TDZE 1421

FAF to MAP 5.2 NM

	FAF to MAP 5.2 NM				
Knots	45	60	75	90	105
Min:Sec	6:56	5:12	4:10	3:28	2:58



LOC I-DLH <b>110.3</b>	APCH CRS <b>090°</b>	Rwy Idg <b>10,162</b> TDZE <b>1428</b> Arprt Elev <b>1428</b>
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AL-125 [USAF]

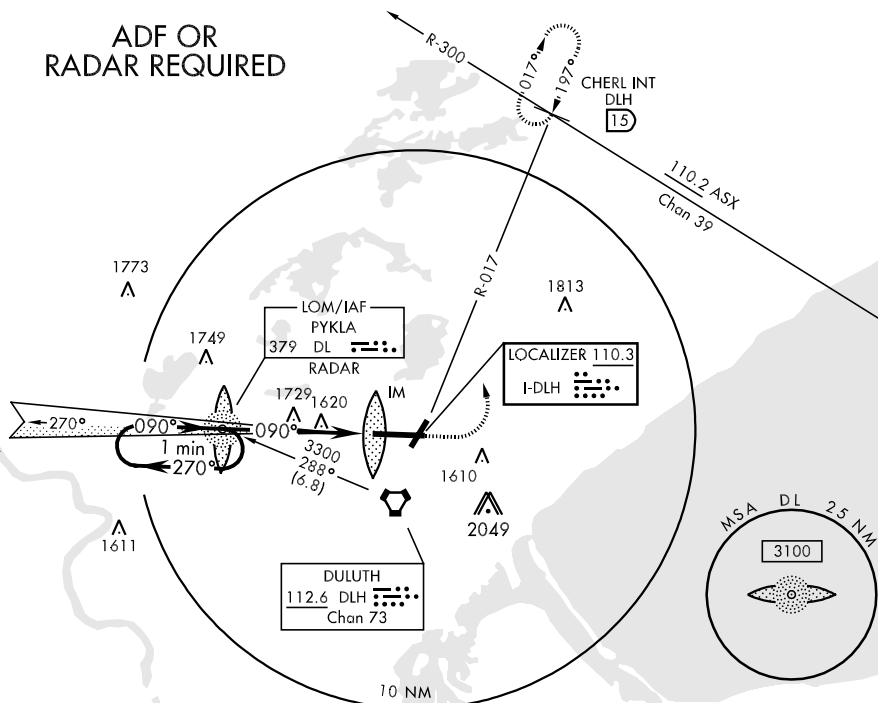
DULUTH INTL (KDLH)

\* When ALS inop, increase RVR to 24 and vis to ½ mile.

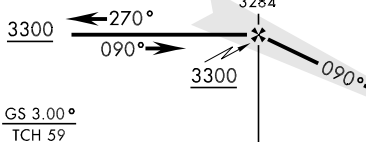
ALSF-2

MISSED APPROACH: Climb to 3000 then climbing left turn to 4500 via DLH R-017 to CHERL INT/DLH 15 DME and hold.

ATIS <b>124.1 270.1</b>	DULUTH APP CON <b>125.45 255.9</b>	DULUTH TOWER <b>118.3 257.8</b>	GND CON <b>121.9 348.6</b>	ASR
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ADF OR  
RADAR REQUIRED

NC-1, 22 OCT 2009 to 19 NOV 2009

One Minute  
Holding PatternPYKLA LOM  
/RADARGS 3.00°  
TCH 59

3000

4500

CHERL INT  
DLH 15

ELEV 1428

090° 5.6 NM

from FAF

1472

1478

1464

1485

1492

1465

1472

1478

1464

1485

1492

1465

1472

1478

1464

1485

1492

1465

TDZL/CL Rwy 9  
REIL Rwy 3 and 21  
HIRL Rwy 3-21 and 9-27

FAF to MAP 5.6 NM

Knots	45	60	75	90	105
Min:Sec	7:28	5:36	4:29	3:44	3:12

DULUTH, MINNESOTA

46°51'N-92°12'W

DULUTH INTL (KDLH)

Amdt 1 09127

COPTER ILS RWY 9

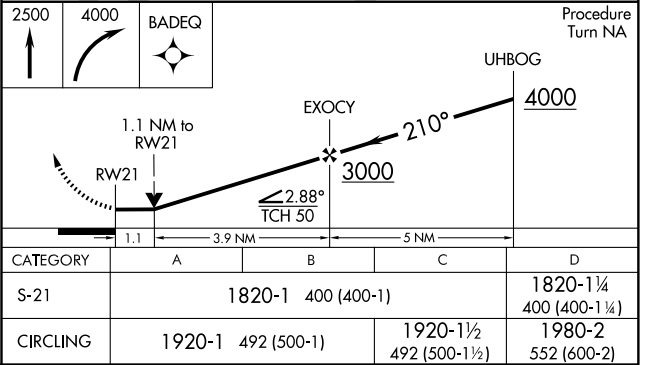
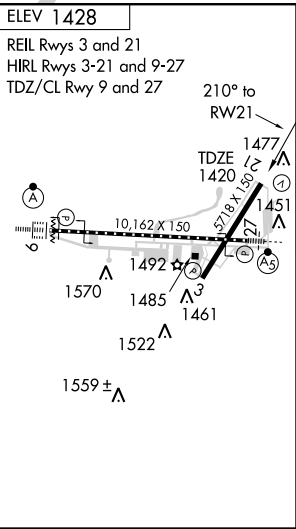
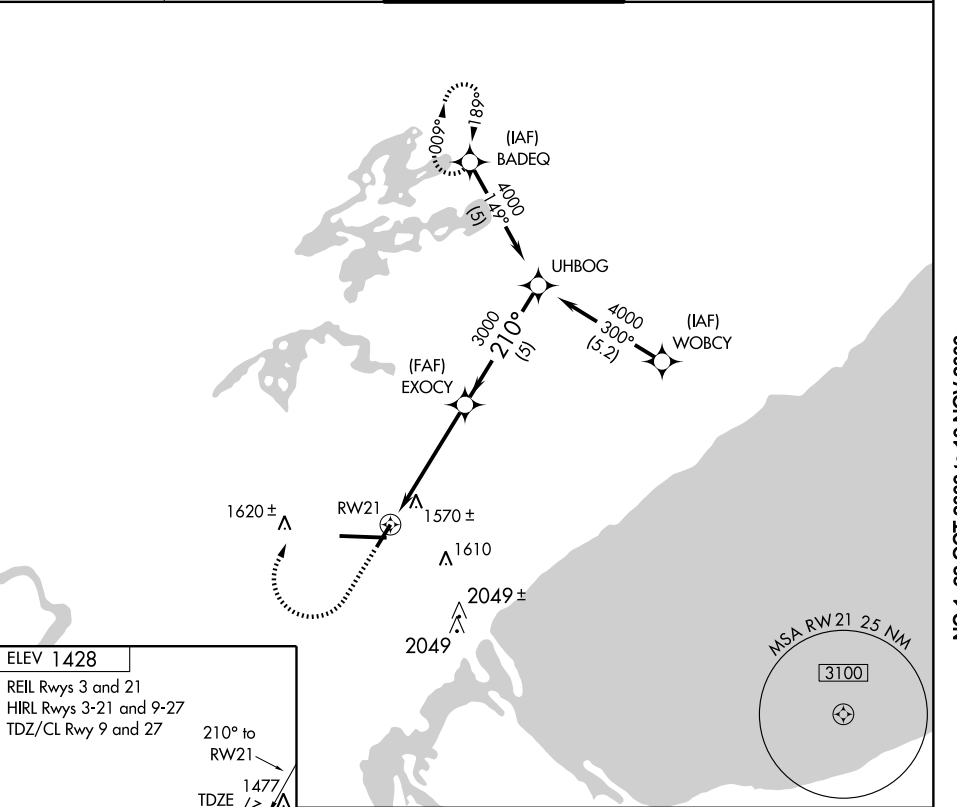
▼

▲NA

ASR

MISSED APPROACH: Climb to 2500, then climbing right turn to 4000 direct BADEQ WP and hold.

ATIS 124.1 270.1	DULUTH APP CON ★ 125.45 255.9	DULUTH TOWER 118.3 257.8	GND CON 121.9 348.6
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TACAN LKI Chan <b>11</b>	APCH CRS <b>082°</b>	Rwy Idg <b>10,162</b> TDZE <b>1428</b> Arpt Elev <b>1428</b>
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JAL-125 [USAF]

DULUTH INTL (KDLH)

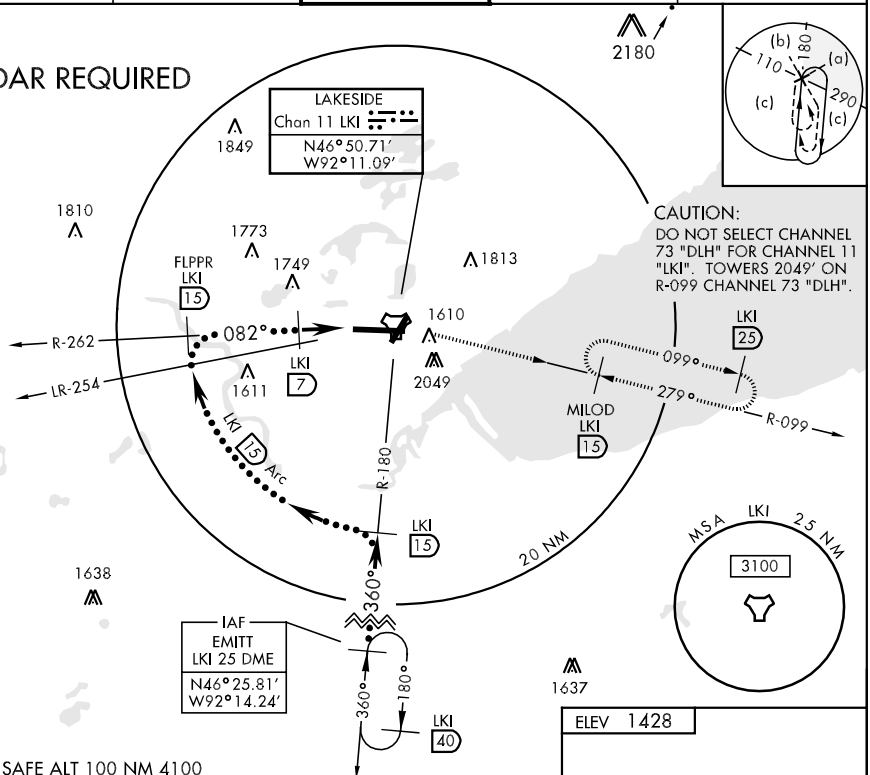
\* Category E not authorized SE of Rwy 3 and Rwy 27.

ALSF-2

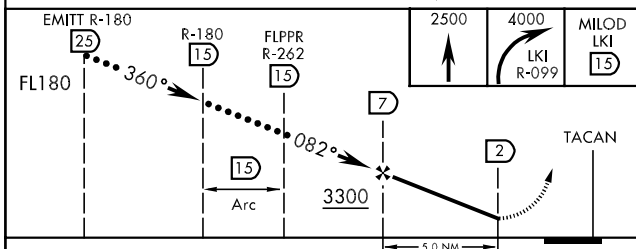
MISSED APPROACH: Climb to 2500 then climbing right turn to 4000 via LKI R-099 to MILOD 15 DME and hold.

ATIS <b>124.1 270.1</b>	DULUTH APP CON <b>125.45 255.9</b>	DULUTH TOWER <b>118.3 257.8</b>	GND CON <b>121.9 348.6</b>	ASR
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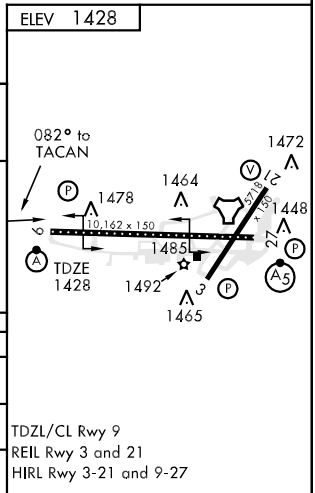
## RADAR REQUIRED



EMERG SAFE ALT 100 NM 4100



CATEGORY	C	D	E
S-9	1880/40 452 (500-¾)	1880/50	452 (500-1)
CIRCLING *	1920-1½ 492 (500-1½)	1980-2	552 (600-2)
S-ASR 9	1880/40 452 (500-¾)	1880/50	452 (500-1)





TACAN LKI Chan <b>11</b>	APCH CRS <b>279°</b>	Rwy Idg TDZE <b>1421</b> Arpt Elev <b>1428</b>
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JAL-125 [USAF]

DULUTH INTL (KDLH)

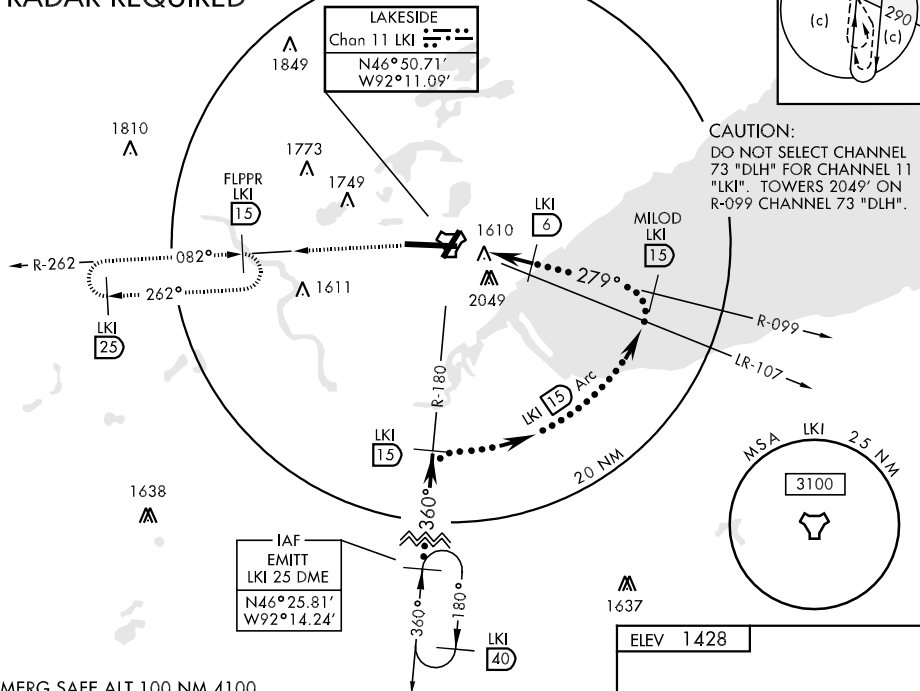
\* Category E not authorized SE of Rwy 3 and Rwy 27.



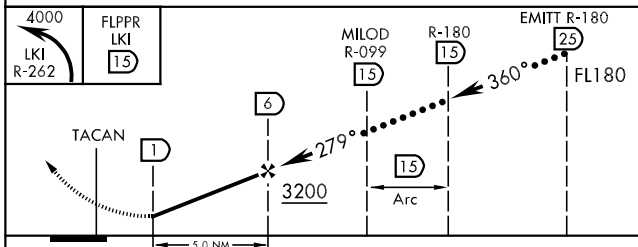
MISSED APPROACH: Climb to 4000 via LKI R-262 to FLPPR 15 DME and hold.

ATIS <b>124.1 270.1</b>	DULUTH APP CON <b>125.45 255.9</b>	DULUTH TOWER <b>118.3 257.8</b>	GND CON <b>121.9 348.6</b>	ASR
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## RADAR REQUIRED



EMERG SAFE ALT 100 NM 4100



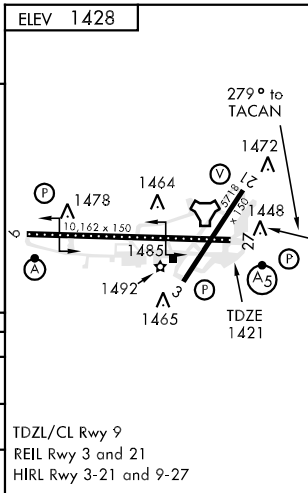
CATEGORY	C	D	E
S-27	1860/40 439 (500-34)	1860/50 439	(500-1)
CIRCLING *	1920-1½ 492 (500-1½)	1980-2 552	(600-2)
S-ASR 27	1860/40 439 (500-34)	1860/50 439	(500-1)

DULUTH, MINNESOTA

46°51'N-92°12'W

DULUTH INTL (KDLH)

Amdt 2 09127



TDZL/CL Rwy 9  
REIL Rwy 3 and 21  
HIRL Rwy 3-21 and 9-27

LOC I-JUD <b>108.7</b>	APP CRS <b>270°</b>	Rwy Idg <b>10162</b> TDZE <b>1421</b> Apt Elev <b>1428</b>
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## ILS or LOC RWY 27

DULUTH INTL (DLH)

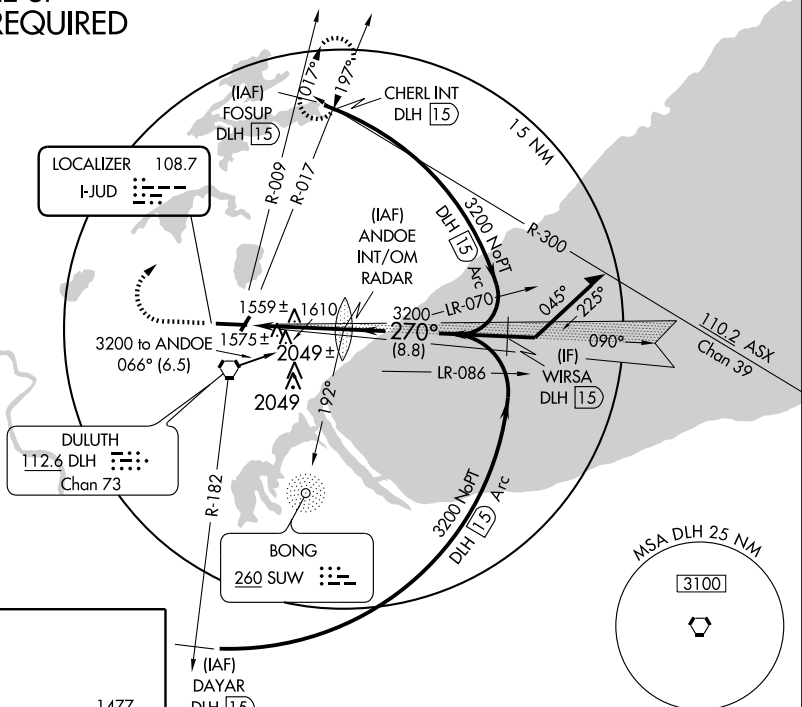
<b>T</b>	Circling NA for Cat E southeast of Rwy 3 and 27.
<b>ASR</b>	For inoperative MALSR, increase S-ILS 27 Cat E visibility to RVR 4000 and S-LOC 27 Cat E visibility to 1¼ mile.



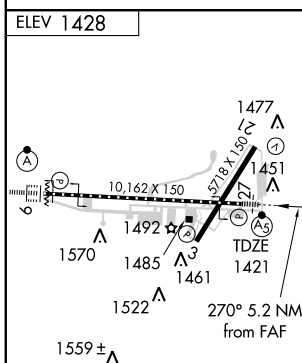
**MISSED APPROACH:** Climb to 3000 then climbing right turn to 4500 via DLH VORTAC R-017 to CHERL INT/DLH 15 DME and hold.

ATIS 124.1 270.1	DULUTH APP CON* 125.45 255.9	DULUTH TOWER 118.3 257.8	GND CON 121.9 348.6
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ADF, DME or  
RADAR REQUIRED



NC-1. 22 OCT 2009 to 19 NOV 2009



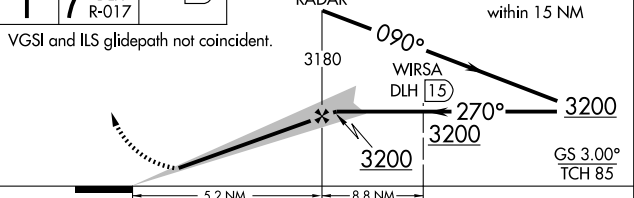
TDZ/CL Rwy 9 and 27  
REIL Rwy 3 and 21  
HIRL Rwy 3-21 and 9-27

FAF to MAP 5.2 NM					
Knots	60	90	120	150	180
Min:Sec	5:12	3:28	2:36	2:05	1:44

3000 ↑	4500 ↗ DLH R-017	CHERL INT DLH 15	A
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VGSI and ILS glidepath not coincident.

GS unusable for coupled approach below 2550'.  
ANDOE INT/OM  
RADAR  
Remain  
within 15 NM



CATEGORY	A	B	C	D	E
S-ILS 27	1621/24	200 (200-½)	1651/24	230 (300-½)	
S-LOC 27	1820/24 399 (400-½)		1820/40 1820/50 399 (400-¾) 399 (400-1)		
CIRCLING	1920-1 492 (500-1)	1920-1½ 492 (500-½)	1980-2 552 (600-2)		

▼

▲

ASR

Cat. E circling not authorized southeast of Runways 3 and 27.

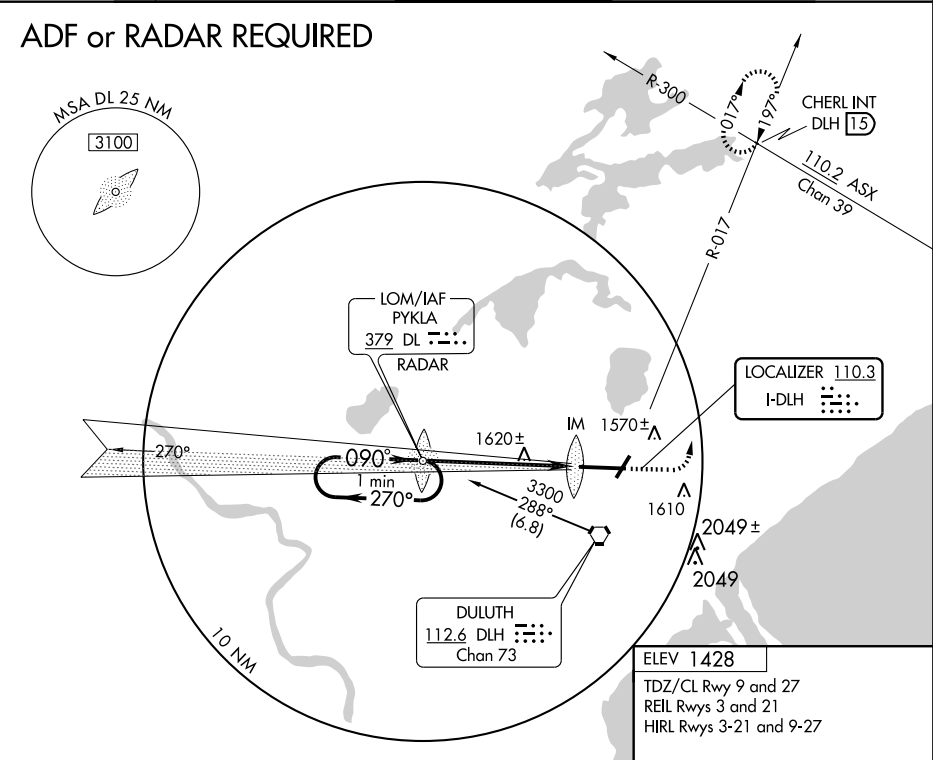
ALSF-2

▲

■

MISSED APPROACH: Climb to 3000 then climbing left turn to 4500 via DLH R-017 to CHERL Int/DLH 15 DME and hold.

ATIS 124.1 270.1	DULUTH APP CON ★ 125.45 255.9	DULUTH TOWER 118.3 257.8	GND CON 121.9 348.6
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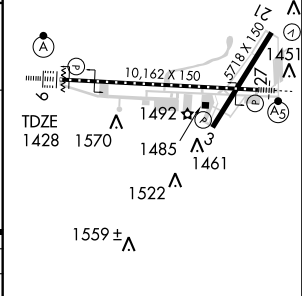
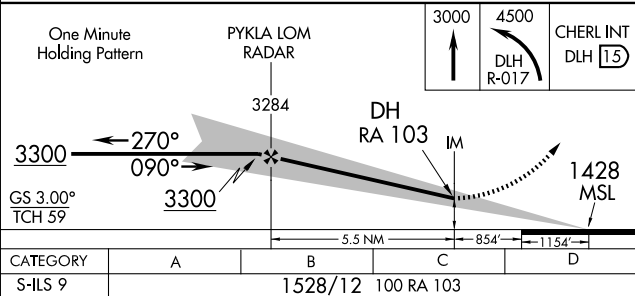
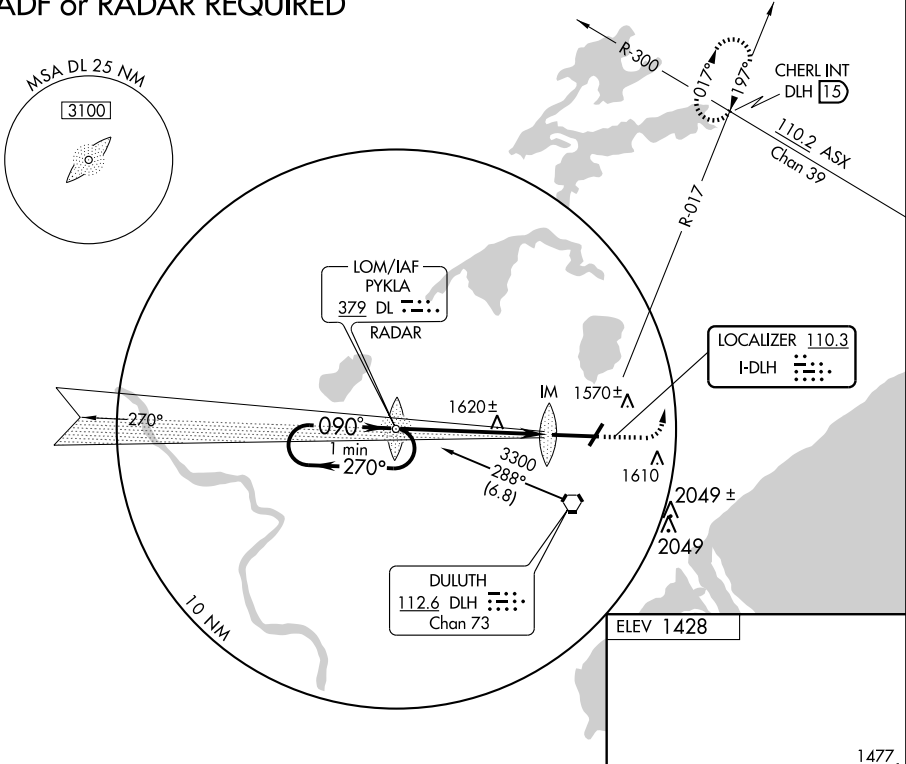
LOC I-DLH	APP CRS	Rwy Idg
<b>110.3</b>	<b>090°</b>	<b>10162</b>
		<b>TDZE</b>
		<b>1428</b>
		<b>Apt Elev</b>
		<b>1428</b>

ILS RWY 9 (CAT II)  
DULUTH INTL (DLH)

<b>ASR</b>	ALSF-2	MISSED APPROACH: Climb to 3000 then climbing left turn to 4500 via DLH R-017 to CHERL Int/DLH 15 DME and hold.
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ATIS <b>124.1 270.1</b>	DULUTH APP CON ★ <b>125.45 255.9</b>	DULUTH TOWER <b>118.3 257.8</b>	GND CON <b>121.9 348.6</b>
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ADF or RADAR REQUIRED



CATEGORY	A	B	C	D
S-ILS 9		1528/12	100 RA 103	
CATEGORY II ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED				

TDZ/CL Rwy 9 and 27  
REIL Rwy 3 and 21  
HIRL Rwy 3-21 and 9-27

WAAS CH <b>90502</b> <b>W09A</b>	APP CRS <b>090°</b>	Rwy Idg <b>10162</b> TDZE <b>1428</b> Apt Elev <b>1428</b>
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RNAV (GPS) RWY 9  
DULUTH INTL (DLH)

**ASR** DME/DME RNP-0.3 NA. Circling NA for Cat. E SE of Rwy 3 and 27.  
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F)  
or above 46°C (115°F).  
For inoperative ALSF-2, increase LPV Cat. E visibility to  $\frac{3}{4}$ , LNAV/VNAV all  
Cats visibility to  $\frac{1}{2}$  and LNAV Cat. E visibility to  $\frac{1}{2}$ .

ALSF-2



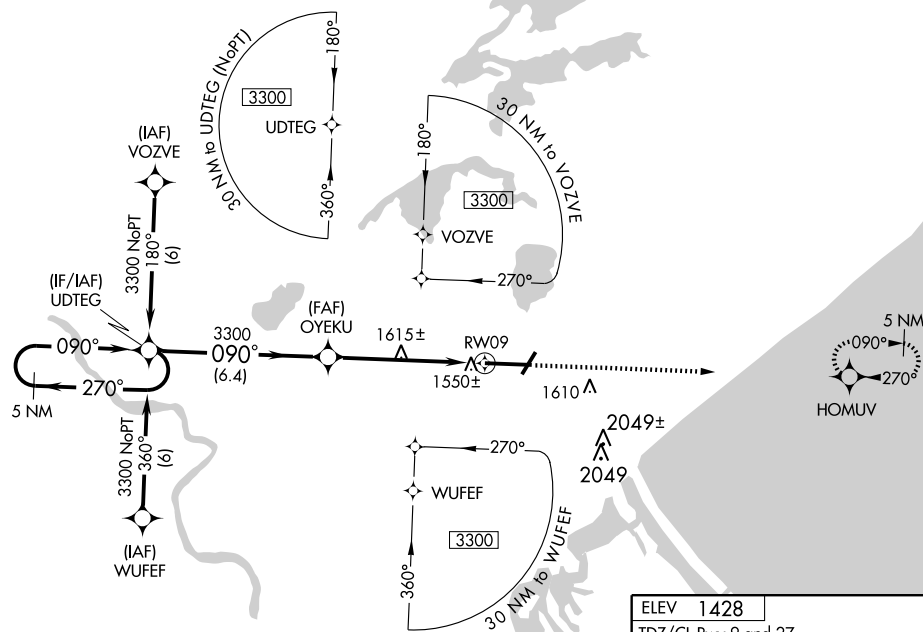
**MISSED APPROACH:** Climb to 4000 direct HOMUV and hold.

ATIS  
124.1 270.1

DULUTH APP CON ★  
125.45 255.9

DULUTH TOWER  
**118.3 257.8**

GND CON  
121.9 348.6




ELEV 1428
TDZ/CL Rwy 9 and 27
REIL Rwy 3 and 21
HIRL Rwy 3-21 and 9-27

VGSI and RNAV glidepath not coincident.

5 NM  
Holding Pattern

3300 —  
GS 3.00°  
TCH 59

4000 ↑	HOMUV 
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\* LNAV only

\* LNAV only

QYFKU

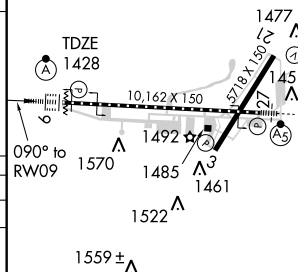
FKU

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\*1.3 NM to RW09

1.3

CATEGORY	A	B	C	D	E
LPV DA	1628/24 200 (200-½)				
LNAV/ VNAV DA	1860/50 432 (500-1)				
LNAV MDA	1880/24 452 (500-½)	1880/40 452 (500-¾)	1880/50 452 (500-1)		
CIRCLING	1920-1 ½	492 (500-1½)	1980-2 552 (600-2)		



WAAS CH <b>50502</b> <b>W27A</b>	APP CRS <b>270°</b>	Rwy Idg <b>10162</b> TDZE <b>1421</b> Apt Elev <b>1428</b>
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RNAV (GPS) RWY 27  
DULUTH INTL (DLH)

**ASR** DME/DME RNP-0.3 NA. Circling NA for Cat. E SE of Rwy 3 and 27.  
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F)  
or above 46°C (115°F).  
For inoperative MALSR, increase LPV Cat. E visibility to RVR 4000,  
LNAV/VNAV Cat. E visibility to RVR 6000, and LNAV Cat. E visibility to 1¾.

MALSR



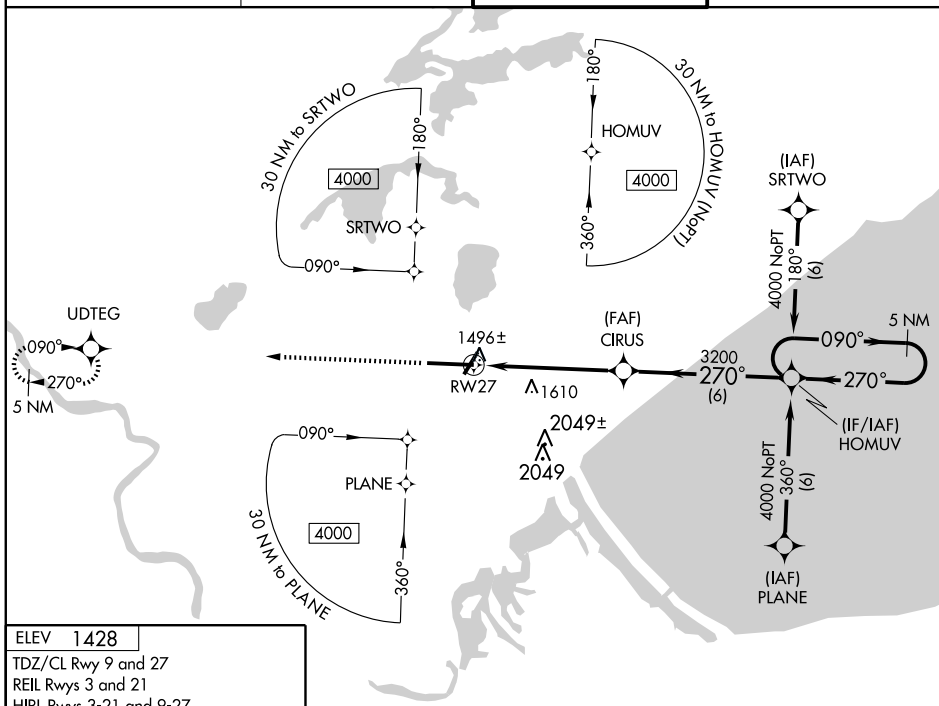
**MISSED APPROACH:** Climb to 3300 direct UDTEG and hold.

ATIS  
124.1 270.1

DULUTH APP CON ★  
125.45 255.9

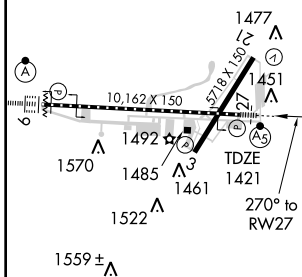
DULUTH TOWER  
118.3 257.8

GND CON  
121.9 348.6



NC-1. 22 OCT 2009 to 19 NOV 2009

ELEV	1428
TDZ/CL Rwy 9 and 27	
REIL Rwy 3 and 21	
HIRL Rwy 3-21 and 9-27	



3300	UDTEG
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VGSI and RNAV glidepath not coincident.

\*LNAV only

CIRUS

HOMUV

5 NM  
Holding Pattern

RW27  
i

270°

090° → 1000

GS 3.00°  
TCH 50

		1.2		4.2 NM		6 NM					
CATEGORY		A		B		C		D		E	
LPV	DA	1671/24				250 (300-½)					
RNAV/ VNAV	DA	1746/40				325 (400-¾)					
RNAV	MDA	1900/24 479 (500-½)				1900/40 479 (500-¾)		1900/50 479 (500-1)		1900/60 479 (500-1¼)	
CIRCLING		1920-1¼ 492 (500-1¼)				1920-1½ 492 (500-1½)		1980-2 552 (600-2)			

TACAN LKI  
 Chan 11

APCH CRS  
082°

Rwy Idg	10,162
TDZE	1428
Arpt Elev	1428

AL-125 [USAF]

DULUTH INTL (KDLH)

\* Category E not authorized SE Rwy 3 and Rwy 27.



MISSED APPROACH: Climb to 2500 then climbing right turn to 4000 via LKI R-099 to MILOD 15 DME and hold.

ATIS  
124.1 270.1

DULUTH APP CON  
125.45 255.9

DULUTH TOWER  
118.3 257.8

GND CON  
121.9 348.6

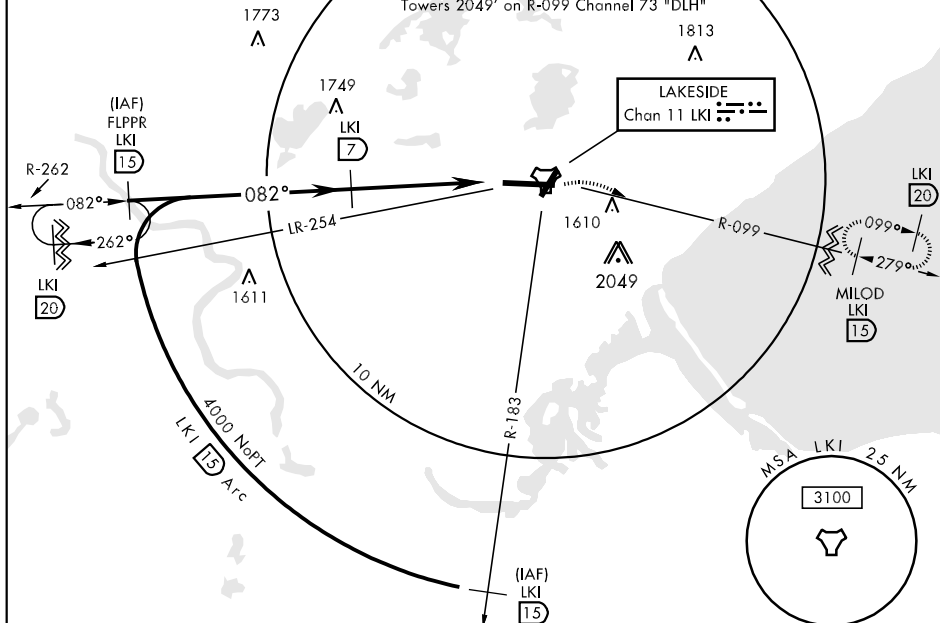
ASR

## RADAR REQUIRED

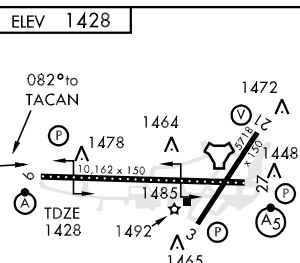
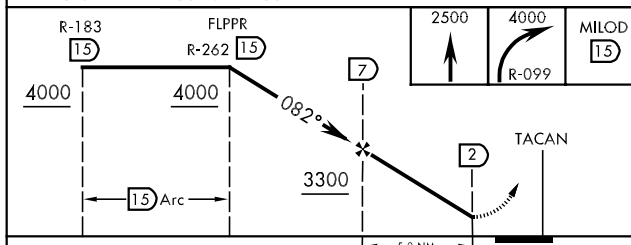
CAUTION: Do not select Channel 73 "DLH" for Channel 11 "LKI".

Towers 2049' on R-099 Channel 73 "DLH"

181



EMERG SAFE ALT 100 NM 4100



CATEGORY	A	B	C	D	E
S-9	1880/24 452 (500-½)	1880/40 452 (500-¾)	1880/50 452 (500-1)		
CIRCLING *	1920-1 492 (500-1)	1920-1½ 492 (500-1½)	1980-2 552 (600-2)		
S-ASR 9	1880/24 452 (500-½)	1880/40 452 (500-¾)	1880/50 452 (500-1)		

TDZL/CL Rwy 9  
REIL Rwy 3 and 21  
HJRL Rwy 3-21 and 9-27

TACAN LKI  
Chap 11

APCH CRS  
279°

Rwy Idg	10,162
TDZE	1421
Arprt Elev	1428

AL-125 [USAF]

DULUTH INTL (KDLH)

\* Category E not authorized SE Rwy 3 and Rwy 27.



**MISSED APPROACH:** Climb to 4000 via R-262 to FLPPR 15 DME and hold.

ATIS  
124.1 270.1

DULUTH APP CON  
125.45 255.9

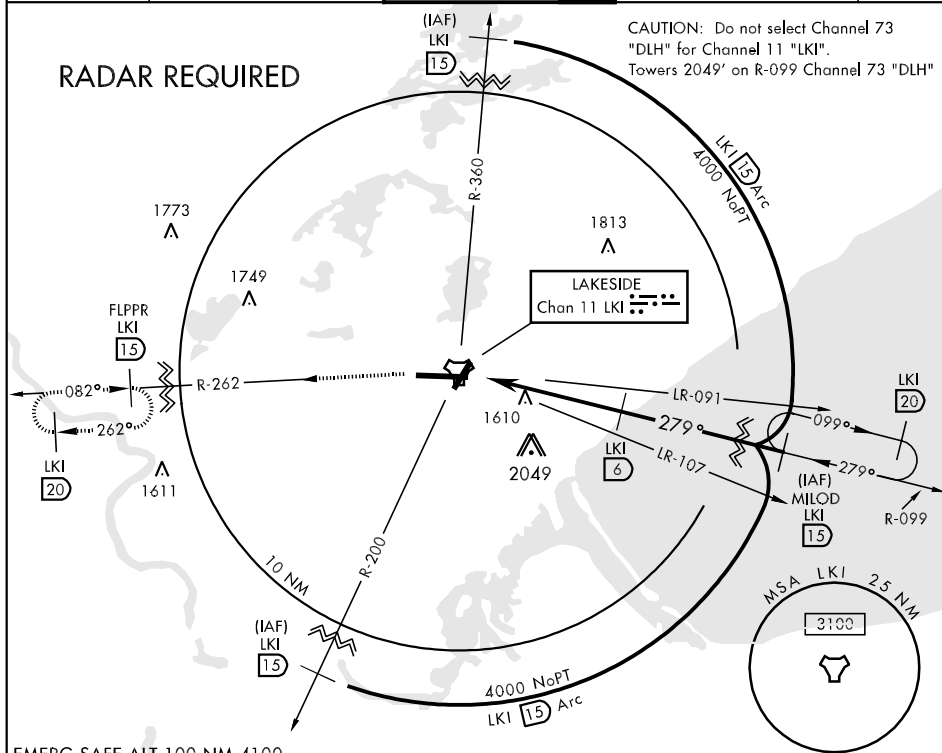
DULUTH TOWER  
118.3 257.8

GND CON  
121.9 348.6

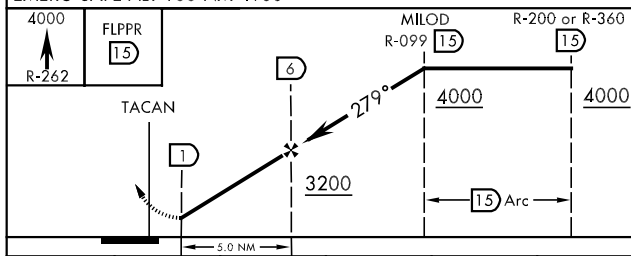
ASR

## RADAR REQUIRED

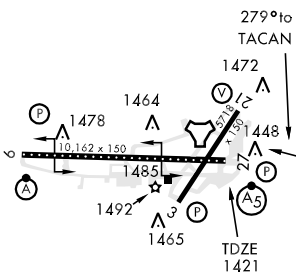
CAUTION: Do not select Channel 73  
"DLH" for Channel 11 "LKI".  
Towers 2049' on R-099 Channel 73 "DLH"



EMERG SAFE ALT 100 NM 4100



FIFV 1428



TDZL/CL Rwy 9  
REIL Rwy 3 and 21  
HIRL Rwy 3-21 and 9-27

CATEGORY	A	B	C	D	E
S-27	1860/24 439 (500-½)	1860/40 439 (500-¾)	1860/50 439 (500-1)		
CIRCLING *	1920-1 492 (500-1)	1920-1½ 492 (500-1½)	1980-2 552 (600-2)		
S-ASR 27	1860/24 439 (500-½)	1860/40 439 (500-¾)	1860/50 439 (500-1)		

DULUTH, MINNESOTA

46° 51' N-92° 12' W

DULUTH INTL (KDLH)

Amdt 2 09127

TACANL BMAV 03

NC-1, 22 OCT 2009 to 19 NOV 2009



VORTAC DLH <b><u>112.6</u></b> Chan <b>73</b>	APP CRS <b>197°</b>	Rwy Idg <b>5718</b> TDZE <b>1420</b> Apt Elev <b>1428</b>
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VOR/DME or TACAN RWY 21

DULUTH INTL (DLH)

ASR

Cat. E circling not authorized southeast of Rwy 3 and 27.

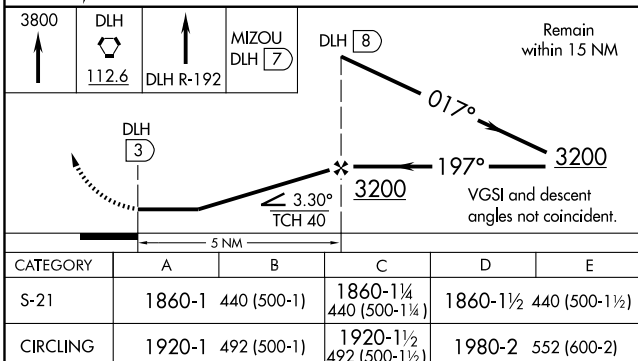
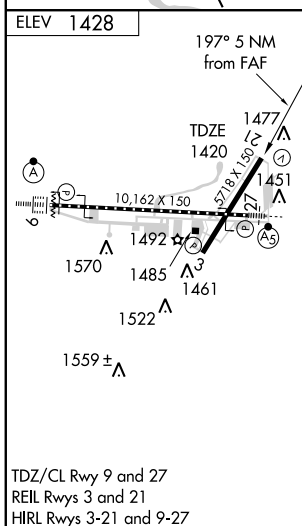
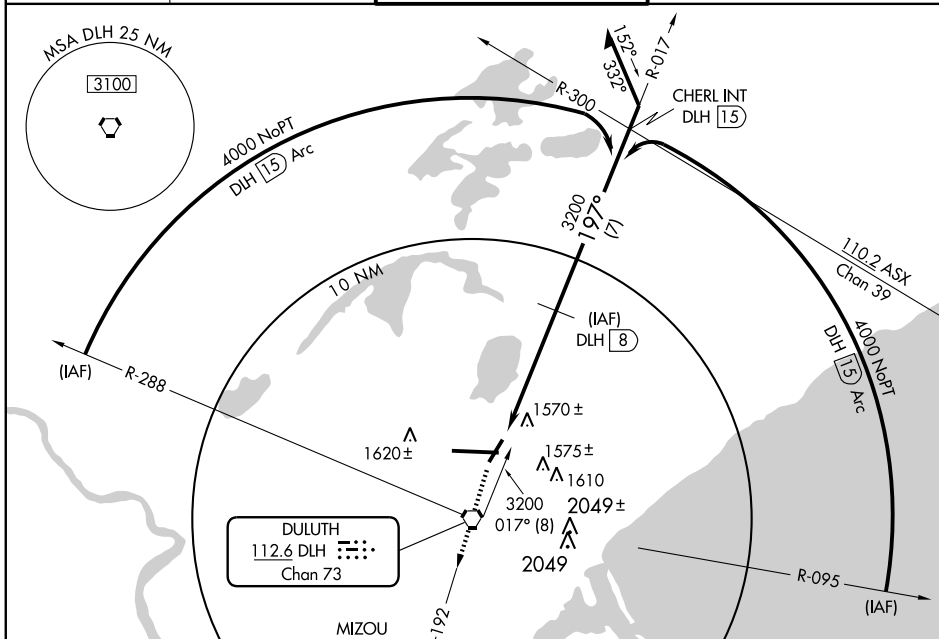
**MISSED APPROACH:** Climb to 3800 via direct DLH VORTAC, then DLH R-192 to MIZOU 7 DME and hold.

ATIS  
124.1 270.1

DULUTH APP CON ★  
125.45 255.9

DULUTH TOWER  
118.3 257.8

GND CON  
121.9 348.6



VORTAC DLH	APP CRS	Rwy Idg	5718
112.6	012°	TDZE	1420
Chan 73		Apt Elev	1428

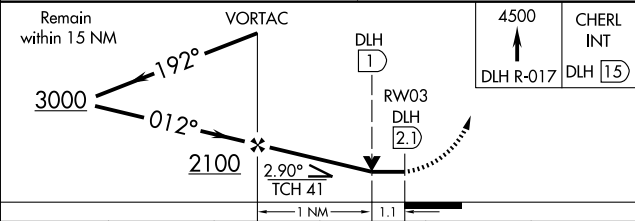
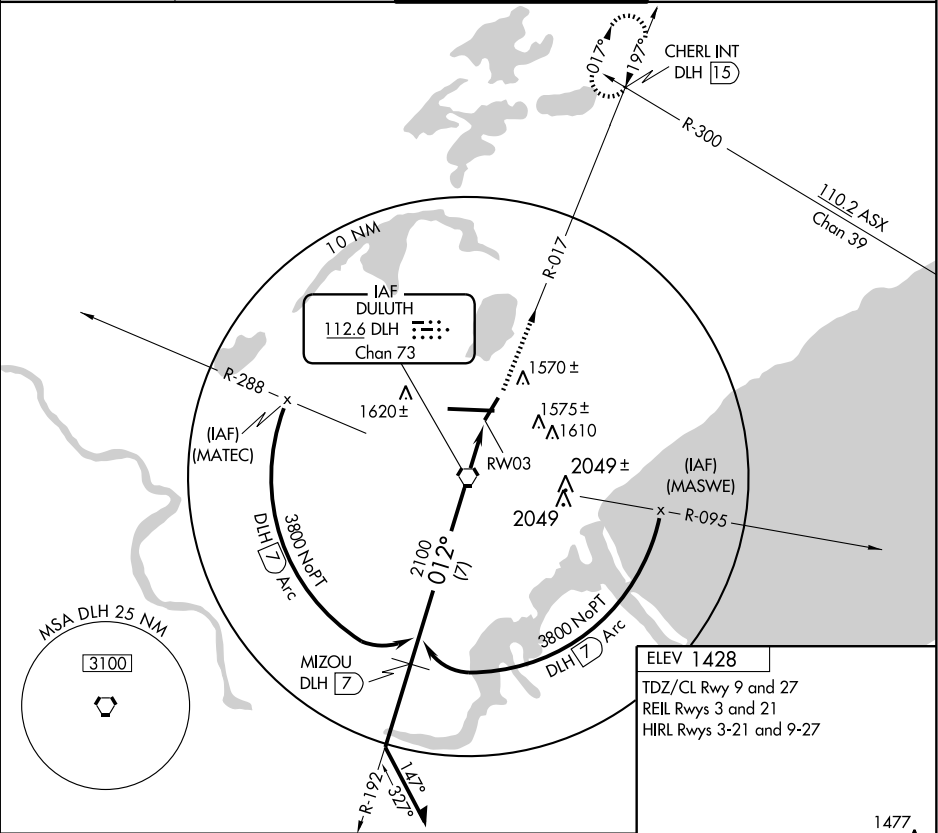
# VOR or TACAN or GPS RWY 3

DULUTH INTL (DLH)

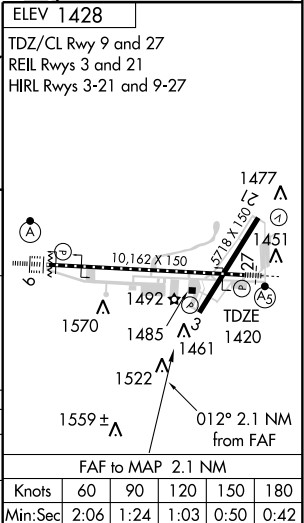
**ASR** Cat. E: circling not authorized southeast of Rwy 3 and 27.

**MISSED APPROACH:** Climb to 4500 via DLH R-017 to CHERL INT/15 DME and hold.

ATIS 124.1 270.1	DULUTH APP CON * 125.45 255.9	DULUTH TOWER 118.3 257.8	GND CON 121.9 348.6
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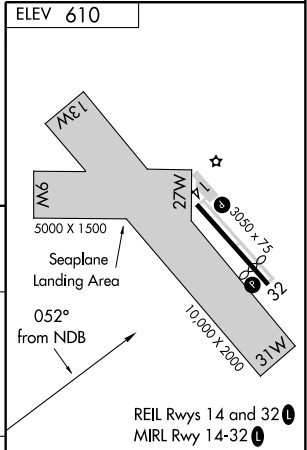
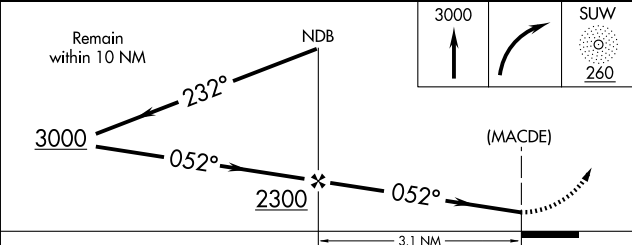
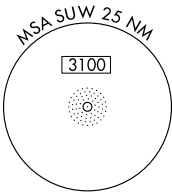
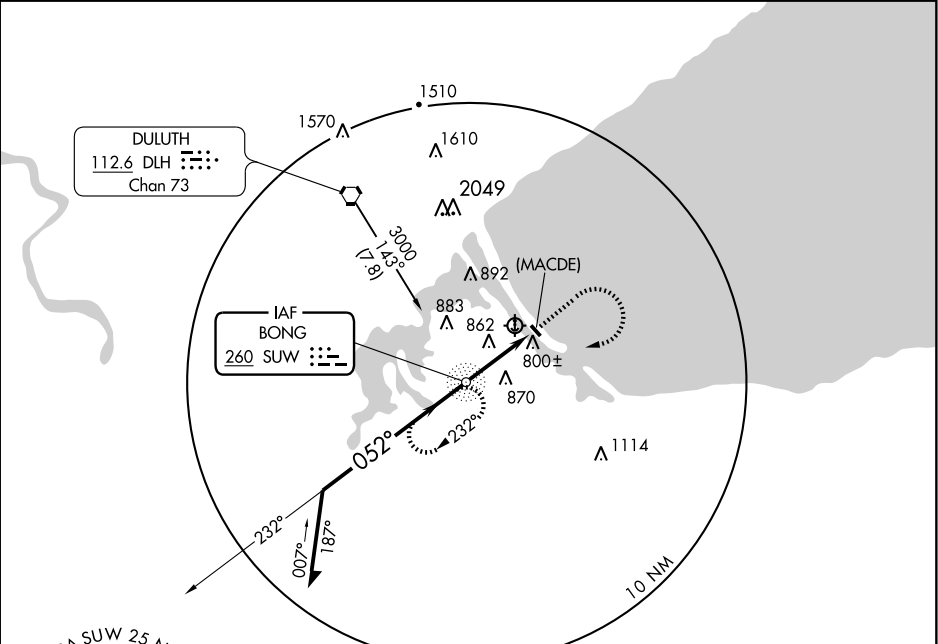
CATEGORY	A	B	C	D	E
S-3	1820-1	400 (400-1)	1820-1½	400 (400-1½)	1820-1½
CIRCLING	1920-1	492 (500-1)	1920-1½	492 (500-1½)	1980-2



NDB	SUW	APP CRS	Rwy Idg TDZE	N/A
<u>260</u>		<u>052°</u>	Apt Elev	<u>610</u>

NDB or GPS-B  
DULUTH/SKY HARBOR (DYT)

NA		MISSED APPROACH: Climb to 3000 then right turn direct SUW NDB and hold.	
AWOS-3 <u>119.275</u>	DULUTH APP CON ★ <u>125.45 255.9</u>	CLNC DEL <u>124.8</u>	UNICOM <u>122.7</u> (CTAF) ①



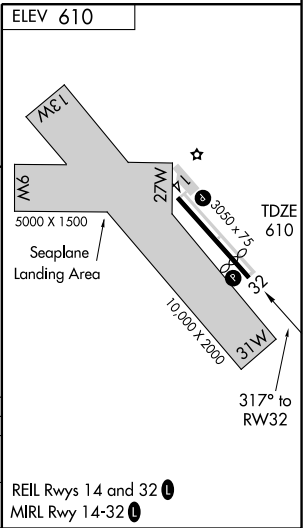
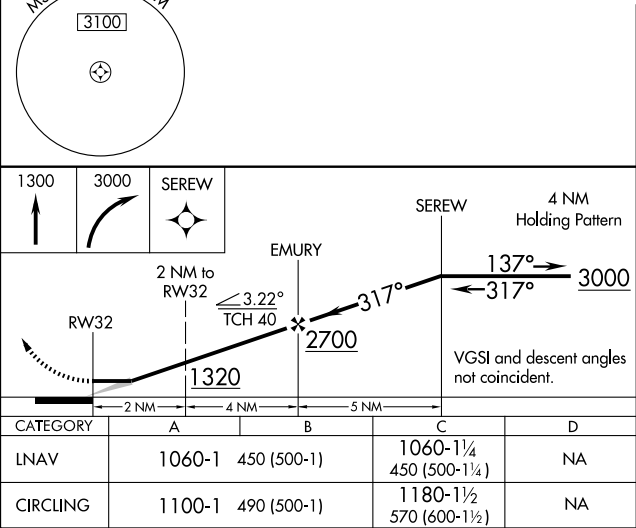
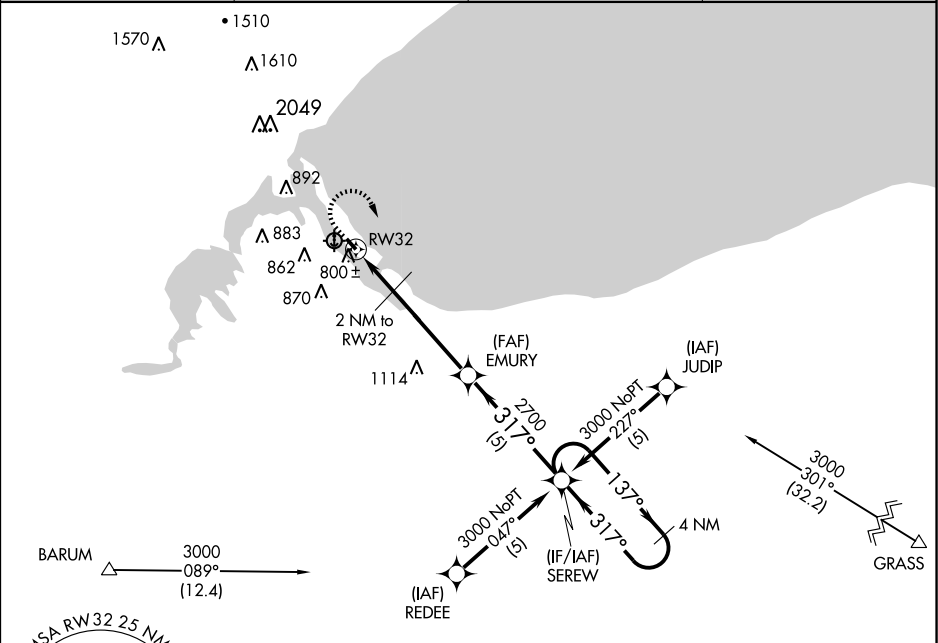
CATEGORY	A	B	C	D	FAF to MAP 3.1 NM					
CIRCLING	1180-1	570 (600-1)	1180-1½ 570 (600-1½)	NA	Knots	60	90	120	150	180
					Min:Sec	3:06	2:04	1:33	1:14	1:02

APP CRS	Rwy Idg	2392
317°	TDZE	610
	Apt Elev	610

# RNAV (GPS) RWY 32

DULUTH/SKY HARBOR (DYT)

<div><div><div><div></div><div></div></div><div><div></div><div></div></div></div><div>GPS or RNP-0.3 required. DME/DME RNP-0.3 NA.</div></div>		MISSED APPROACH: Climb to 1300 then climbing right turn to 3000 direct SEREW WP and hold.	
AWOS-3 119.275	DULUTH APP CON ★ 125.45 255.9	CLNC DEL 124.8	UNICOM 122.7 (CTAF) ①



APP CRS	Rwy Idg	<b>5600</b>
<b>120°</b>	TDZE	<b>1451</b>
	Apt Elev	<b>1455</b>

## RNAV (GPS) RWY 12

ELY MUNI (ELO)



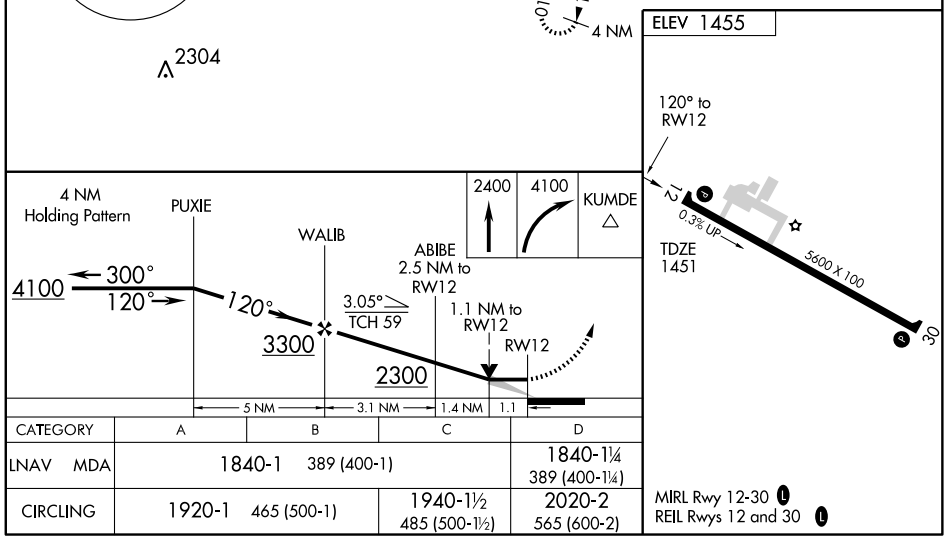
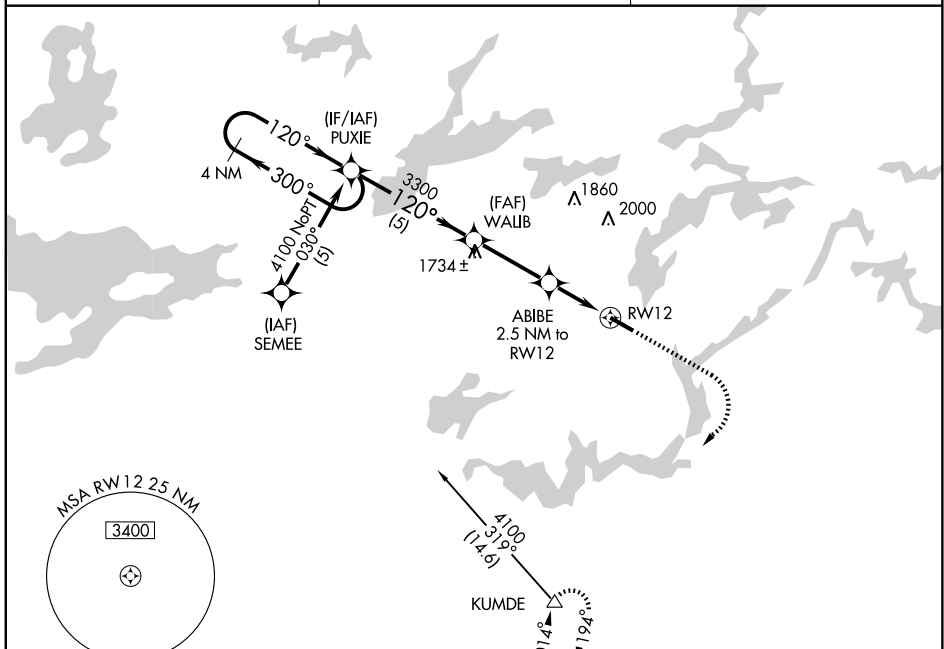
NA GPS or RNP -0.3 required. DME/DME RNP- 0.3 NA.

MISSED APPROACH: Climb to 2400 then climbing right turn to 4100 direct KUMDE WP and hold.

AWOS-3  
**132.025**

PRINCETON RADIO  
**122.1R**

UNICOM  
**122.8 (CTAF) 0**



APP CRS	Rwy Idg	5600
300°	TDZE	1455
	Apt Elev	1455

# RNAV (GPS) RWY 30

ELY MUNI (ELO)

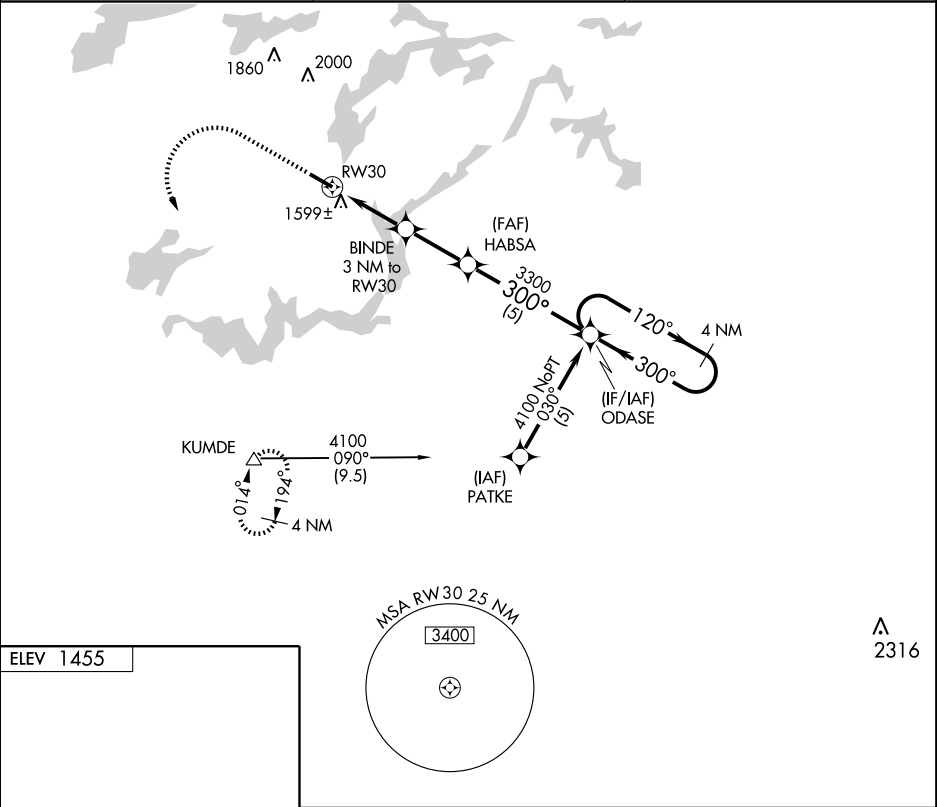
**NA** GPS or RNP-0.3 required. DME/DME RNP-0.3 NA.

MISSED APPROACH: Climb to 2400 then climbing left turn to 4100 direct KUMDE WP and hold.

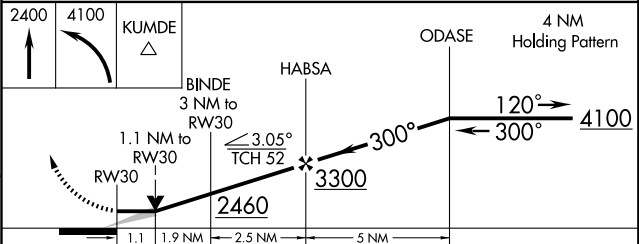
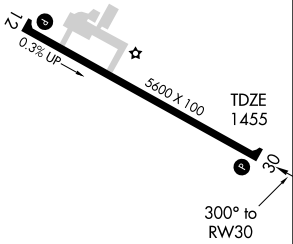
AWOS-3  
132.025

PRINCETON RADIO  
122.1R

UNICOM  
122.8 (CTAF) **0**



ELEV 1455



MIRL Rwy 12-30 **0**  
REIL Rwy 12 and 30 **0**

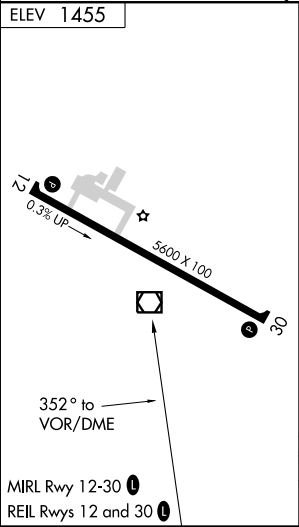
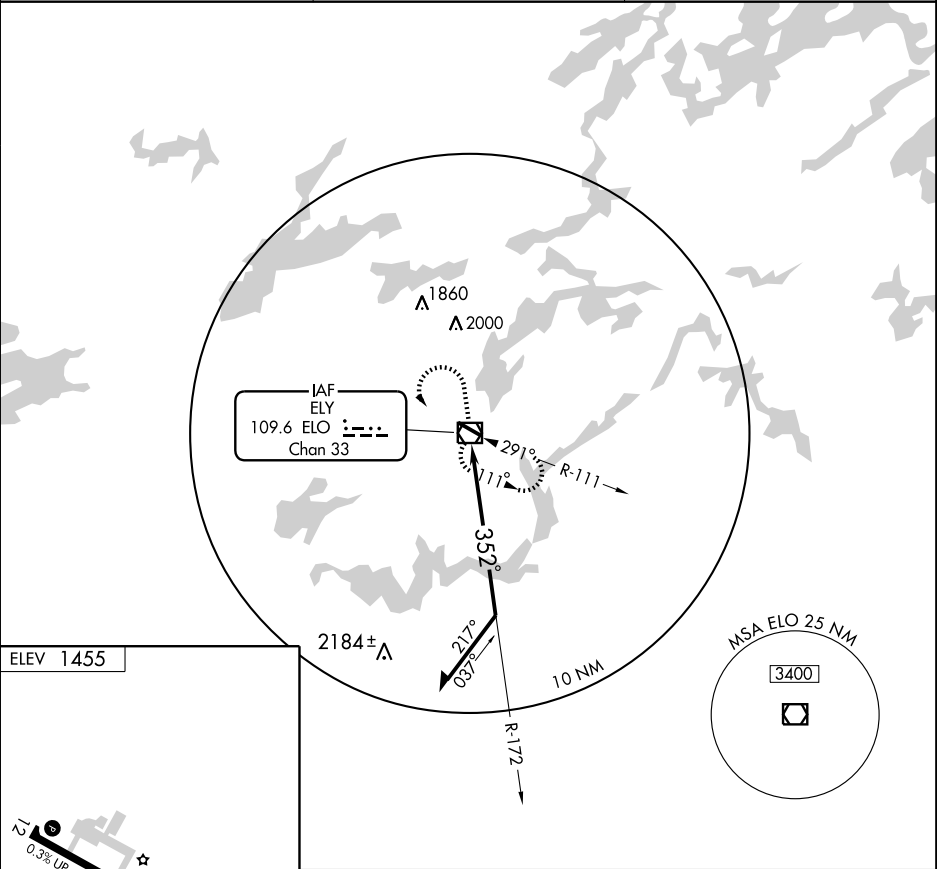
CATEGORY	A	B	C	D
LNNAV MDA	1860-1	405 (500-1)	1860-1¼	405 (500-1¼)
CIRCLING	1920-1	465 (500-1)	1940-1½ 485 (500-1½)	2020-2 565 (600-2)




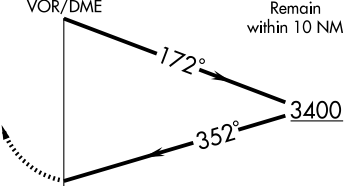
VOR/DME ELO <b>109.6</b> Chan <b>33</b>	APP CRS <b>352°</b>	Rwy Idg TDZE Apt Elev <b>1455</b>	<b>N/A</b> <b>N/A</b> <b>1455</b>
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VOR-A  
ELY MUNI (ELO)

	MISSED APPROACH: Climb to 3000 then climbing left turn to 3400 direct ELO VOR/DME and hold.
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AWOS-3 <b>132.025</b>	PRINCETON RADIO <b>122.1R</b>	UNICOM <b>122.8</b> (CTAF) <b>0</b>
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3000	3400	ELO  109.6	VOR/DME	Remain within 10 NM
				
CATEGORY	A	B	C	D
CIRCLING	2120-1	665 (700-1)	2120-1¾ 665 (700-1¾)	2120-2 665 (700-2)

## VOR/DME RWY 12

ELY MUNI (ELO)

VOR/DME ELO <b>109.6</b> Chan <b>33</b>	APP CRS <b>122°</b>	Rwy Idg TDZE Apt Elev <b>5600</b> <b>1451</b> <b>1455</b>
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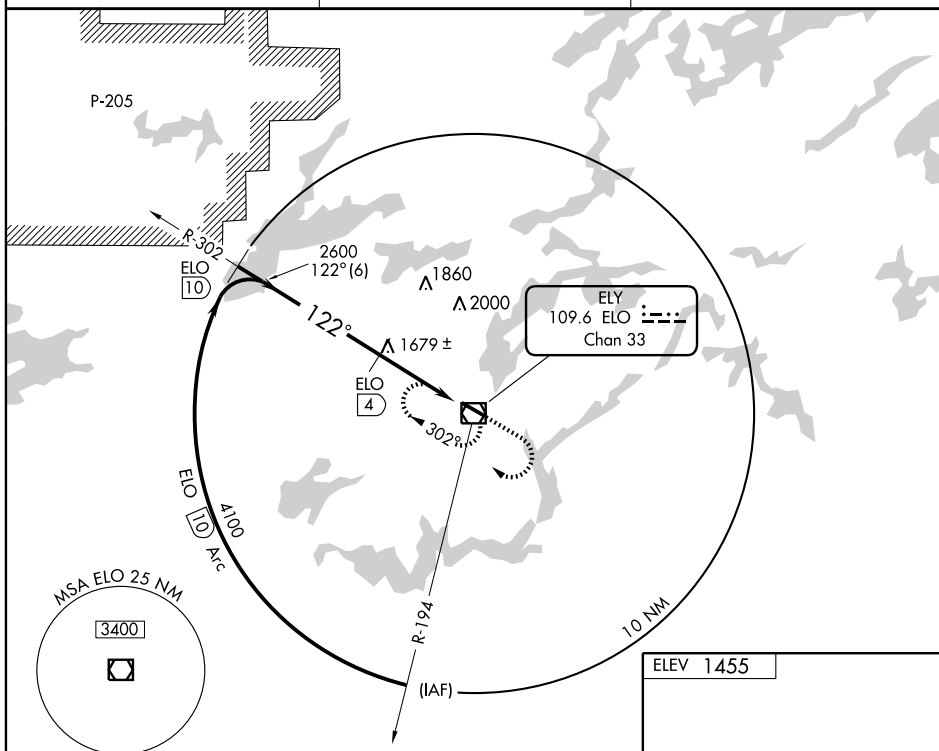


MISSED APPROACH: Climb to 2300 then climbing right turn to 4100 direct ELO VOR/DME and hold.

AWOS-3  
**132.025**

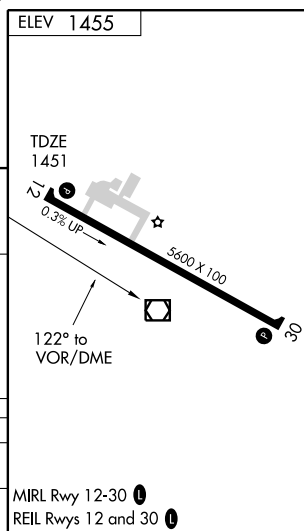
PRINCETON RADIO  
**122.1R**

UNICOM  
**122.8 (CTAF) 0**



△ 2304

Procedure Turn NA				
CATEGORY	A	B	C	D
S-12	1900-1	449 (500-1)	1900-1¼ 449 (500-1¼)	1900-1½ 449 (500-1½)
CIRCLING	1920-1	465 (500-1)	1940-1½ 485 (500-1½)	2020-2 565 (600-2)



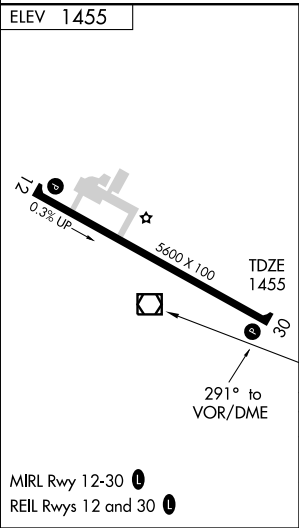
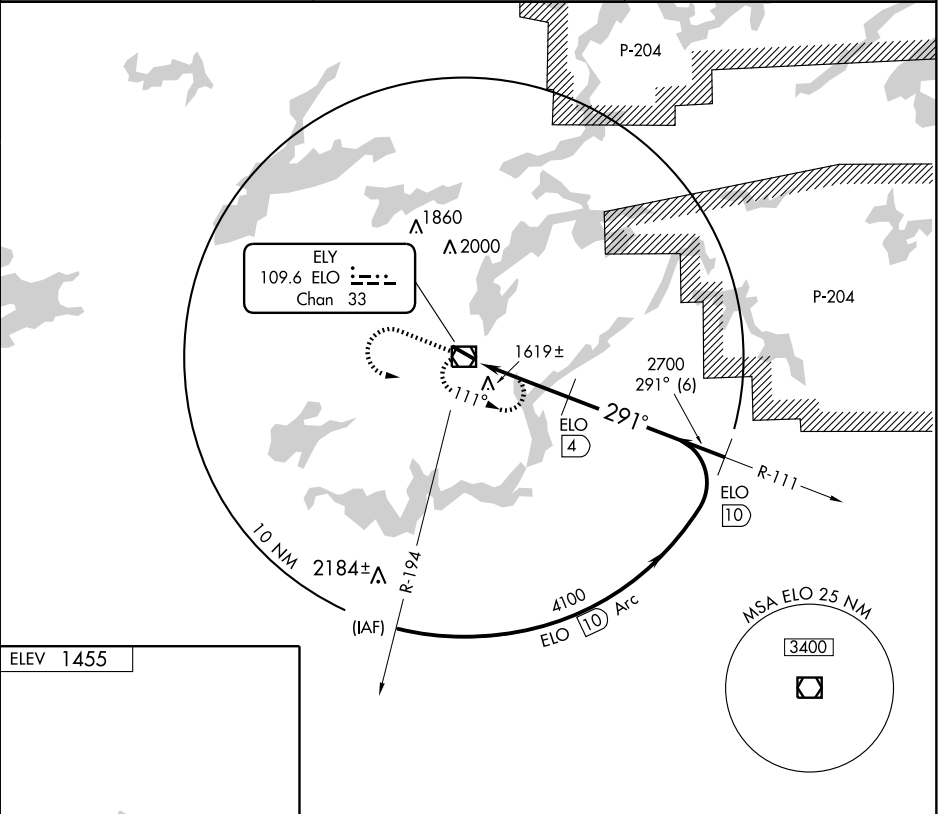






VOR/DME ELO	APP CRS	Rwy Idg	5600
109.6	291°	TDZE	1455
Chan 33		Apt Elev	1455

VOR/DME RWY 30  
ELY MUNI (ELO)

	MISSED APPROACH: Climb to 2300 then climbing left turn to 4100 direct ELO VOR/DME and hold.
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AWOS-3 132.025	PRINCETON RADIO 122.1R	UNICOM 122.8 (CTAF) 
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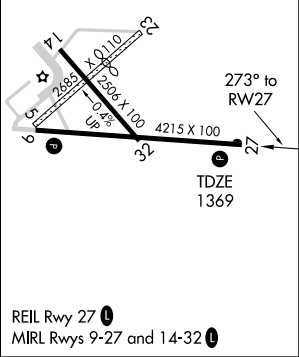
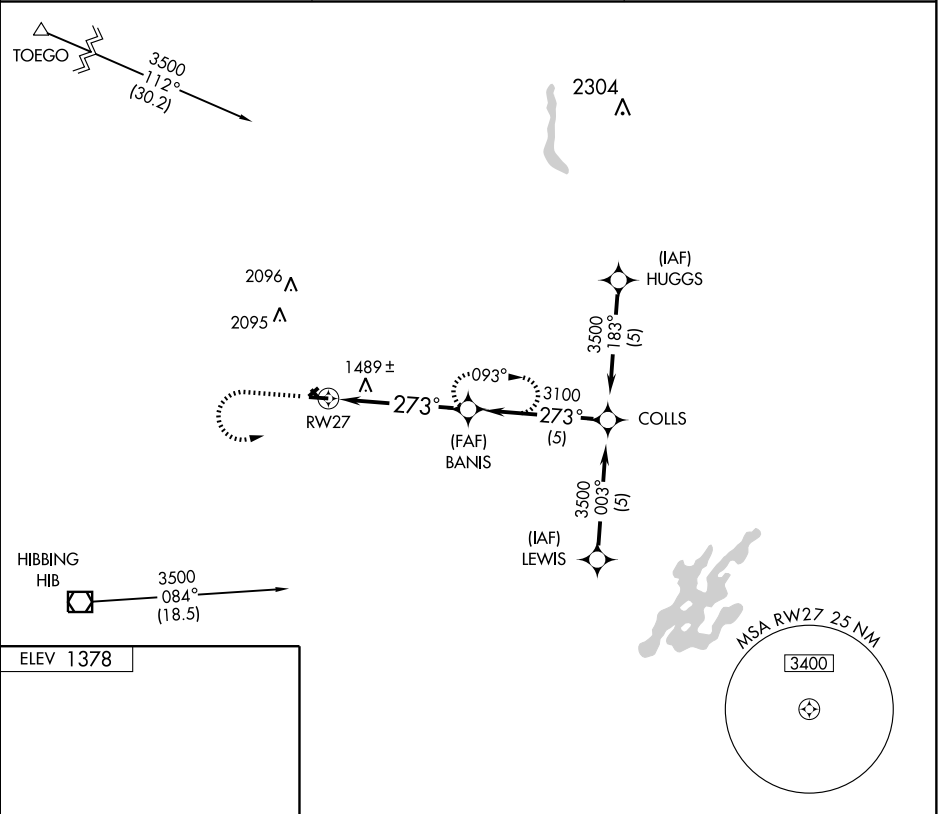
	2300	4100	ELO 109.6	ELO 10	Procedure Turn NA
					
			ELO 0.4	ELO 1.5	ELO 4
					4100
					2700
					291°
					≤ 3.10° TCH 52
					1.1
					2.5 NM
					6 NM
CATEGORY	A	B	C	D	
S-30	1880-1	425 (500-1)	1880-1¼	425 (500-1¼)	
CIRCLING	1920-1	465 (500-1)	1940-1½ 485 (500-1½)	2020-2 565 (600-2)	

APP CRS	Rwy Idg	4215
273°	TDZE	1369
	Apt Elev	1378

GPS RWY 27  
EVELETH-VIRGINIA MUNI (EVM)

<div>▼</div> <div>▲ NA</div>	MISSED APPROACH: Climb to 1800 then left climbing turn to 3100 direct BANIS WP and hold.
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AWOS-3 108.2	DULUTH APP CON ★ 125.45 255.9	UNICOM 122.7 (CTAF) ①
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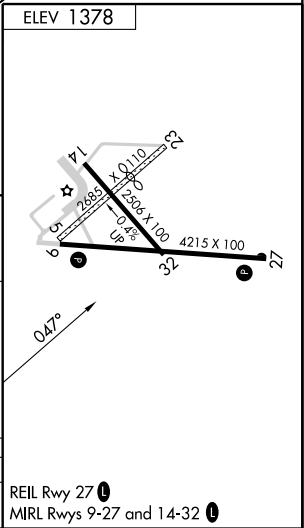
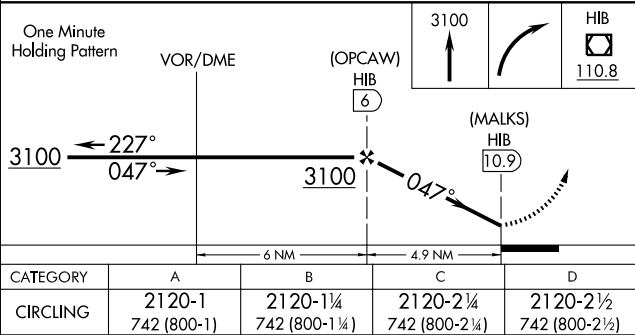
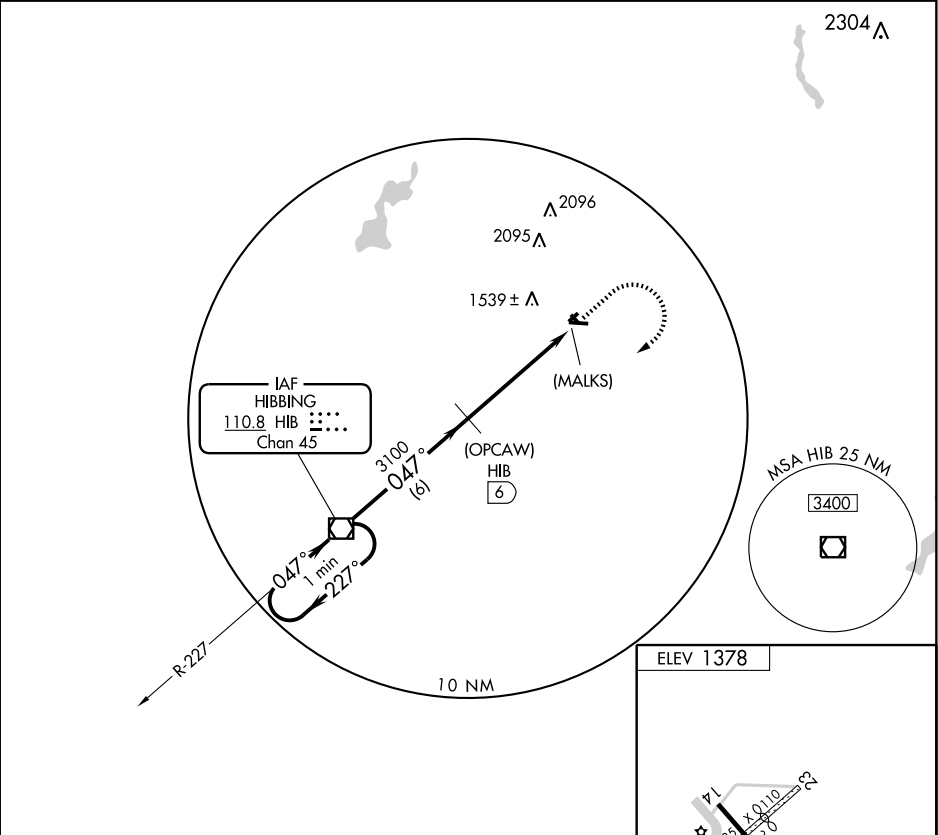
1800	3100	BANIS		
Procedure Turn NA				
CATEGORY	A	B	C	D
S-27	1740-1 371 (400-1)			1740-1¼ 371 (400-1¼)
CIRCLING	1920-1 542 (600-1)		1940-1½ 562 (600-1½)	2060-2¼ 682 (700-2¼)

VOR/DME HIB <b>110.8</b> Chan <b>45</b>	APP CRS <b>047°</b>	Rwy Idg TDZE Apt Elev	N/A N/A <b>1378</b>
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VOR/DME or GPS-A  
EVELETH-VIRGINIA MUNI (EVM)

 	MISSED APPROACH: Climb to 3100 then right turn direct HIB VOR/DME and hold.
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AWOS-3 <b>108.2</b>	DULUTH APP CON ★ <b>125.45 255.9</b>	UNICOM <b>122.7 (CTAF)</b>
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VOR/DME EVM	APP CRS	Rwy Idg	4215
108.2	268°	TDZE	1369
Chan 19		Apt Elev	1378

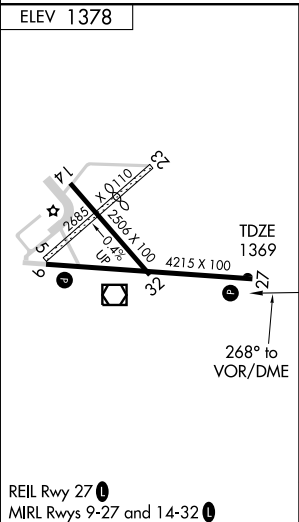
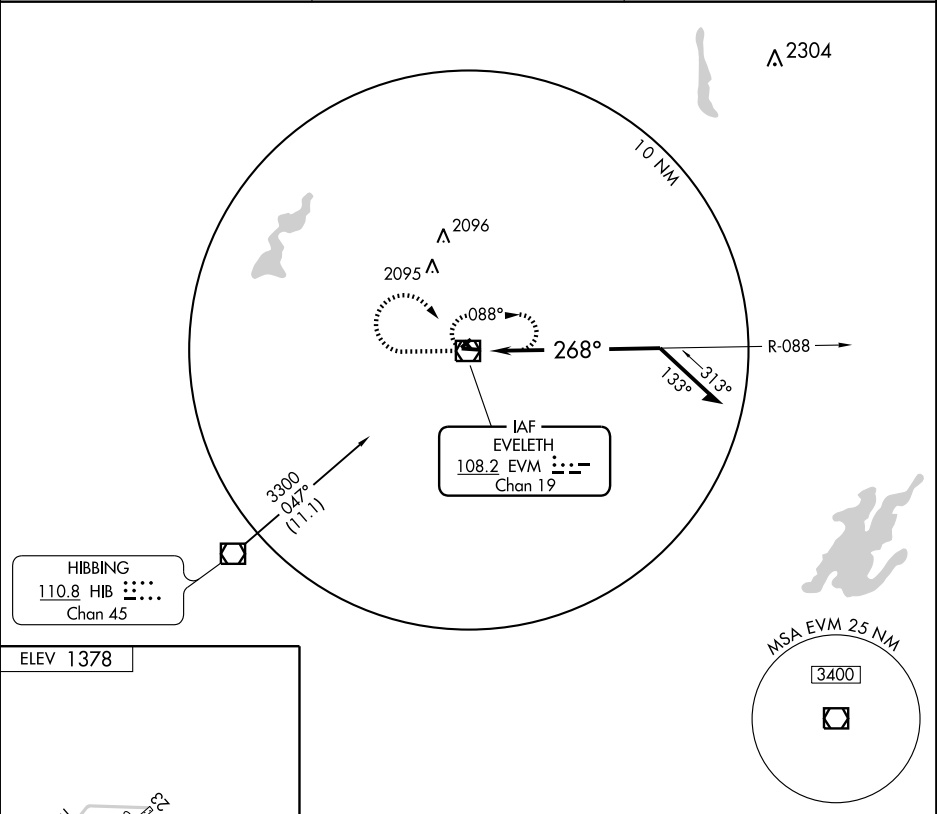
VOR RWY 27  
EVELETH-VIRGINIA MUNI (EVM)



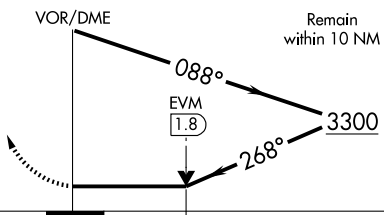
**▼** If local altimeter setting not received, use Chisholm-Hibbing altimeter setting and increase all MDAs 40 feet.



**▲ NA** VDP NA when using Chisholm-Hibbing altimeter setting.

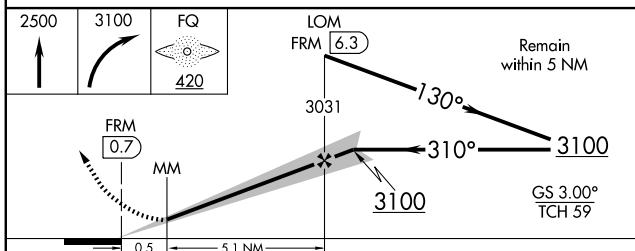
**MISSED APPROACH:** Climb to 3300 then right turn direct EVM VOR/DME and hold.

AWOS-3 108.2	DULUTH APP CON ★ 125.45 255.9	UNICOM 122.7 (CTAF) <b>📻</b>
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3300 ↑		EVM  <u>108.2</u>	 <p>VOR/DME</p> <p>088°</p> <p>EVM 1.8</p> <p>268°</p> <p>3300</p> <p>1.3 NM</p> <p>Remain within 10 NM</p>			
CATEGORY	A	B	C	D		
S-27	1820-1	451 (500-1)	1820-1¼ 451 (500-1¼)	1820-1½ 451 (500-1½)		
CIRCLING	1900-1 522 (600-1)	1960-1 582 (600-1)	1980-1¾ 602 (700-1¾)	2040-2 662 (700-2)		

<b>NA</b> For inoperative MALSR increase visibility to ½ mile.		<b>MALSR</b> 	<b>MISSED APPROACH:</b> Climb to 2500 then climbing right turn to 3100 direct MONTZ LOM and hold.
<b>AWOS-3</b> <b>110.2</b>	<b>MINNEAPOLIS CENTER</b> <b>127.75 257.7</b>		<b>UNICOM</b> <b>122.8 (CTAF)</b> 



ELEV 1162

HIRL Rwy 13-31 **(L)**

REIL Rwy 13 **(L)**

MIRL Rwy 2-20 **(L)**

1211

310° 5.6 NM from FAF

TDZE 1162

3300 X 75

5500 X 100

FAF to MAP 5.6 NM					
Knots	45	60	75	90	105
Min:Sec	7:28	5:36	4:29	3:44	3:12

AWOS-3 <b>110.2</b>	MINNEAPOLIS CENTER <b>127.75 257.7</b>	UNICOM <b>122.8 (CTAF) 0</b>
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WAAS CH <b>90412</b> <b>W31A</b>	APP CRS <b>310°</b>	Rwy Idg <b>5505</b> TDZE <b>1162</b> Apt Elev <b>1162</b>
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## RNAV (GPS) RWY 31

FAIRMONT MUNI (FRM)

**T** For inoperative MALSR, increase LPV all Cats visibility to 1 mile and LNAV Cat D visibility to 1¼ mile.

**A** For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (114°F). DME/DME RNP-0.3 NA.

When local altimeter setting not received, use St. James altimeter setting and increase all DA 63 feet and all MDA 80 feet, increase LPV and LNAV/VNAV all Cats visibility and LNAV Cat C visibility ½ mile.

Baro-VNAV NA when using St. James altimeter setting.

For inoperative MALSR when using St. James altimeter setting, increase LPV all Cats visibility ½ mile.

MALSR



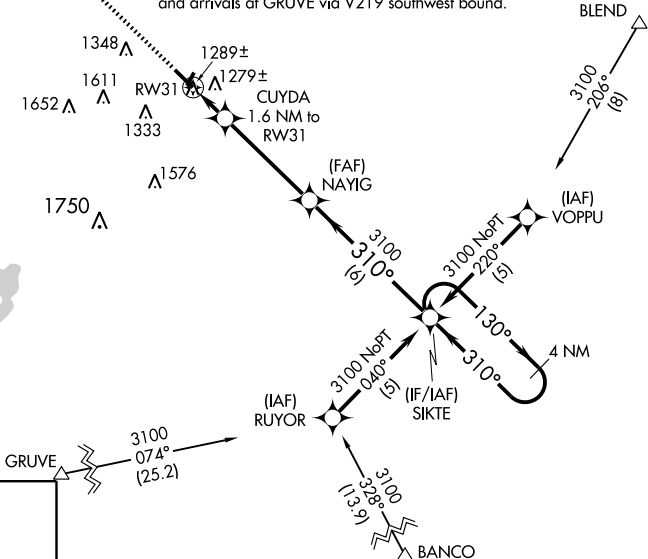
**MISSED APPROACH:** Climb to 3100 direct UCEVA and hold.

AWOS-3 <b>110.2</b>	MINNEAPOLIS CENTER <b>127.75 257.7</b>	UNICOM <b>122.8 (CTAF) 0</b>
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MISSED APCH FIX



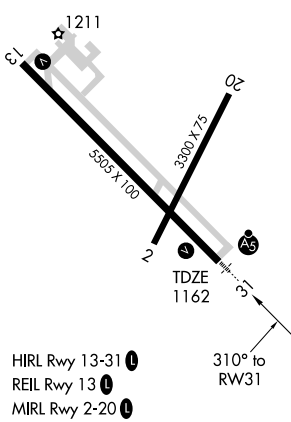
Procedure NA for arrivals at BLEND via V170 eastbound,  
and arrivals at GRUVE via V219 southwest bound.





MSA K117-25 NM

3200

ELEV 1162



3100	UCEVA
	

VGSI and RNAV glidepath not coincident.

4 NM  
Holding Pattern

NAYI

SIKTE

- 314

---

30 → 3100

3100

GS 3.00°  
TCH 59

CATEGORY		A	B	C	D
LPV	DA	1467-½ 305 (400-½)			
LNAV/ VNAV	DA	1581-1 419 (500-1)			
LNAV	MDA	1560-½ 398 (400-½)			1560-1 398 (400-1)
CIRCLING		1640-1 478 (500-1)		1640-1½ 478 (500-1½)	1720-2 558 (600-2)



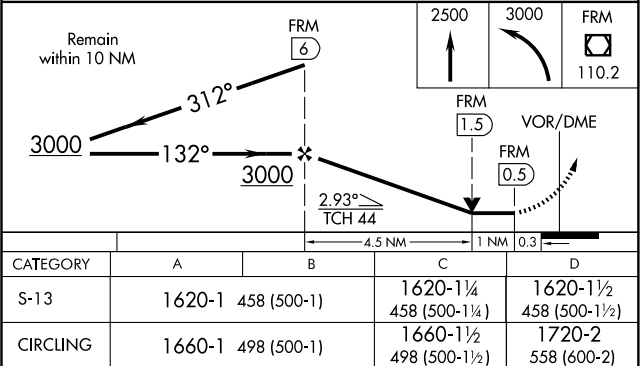
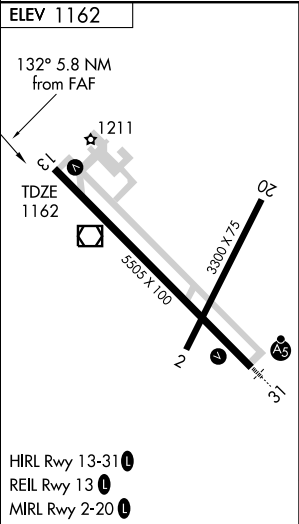
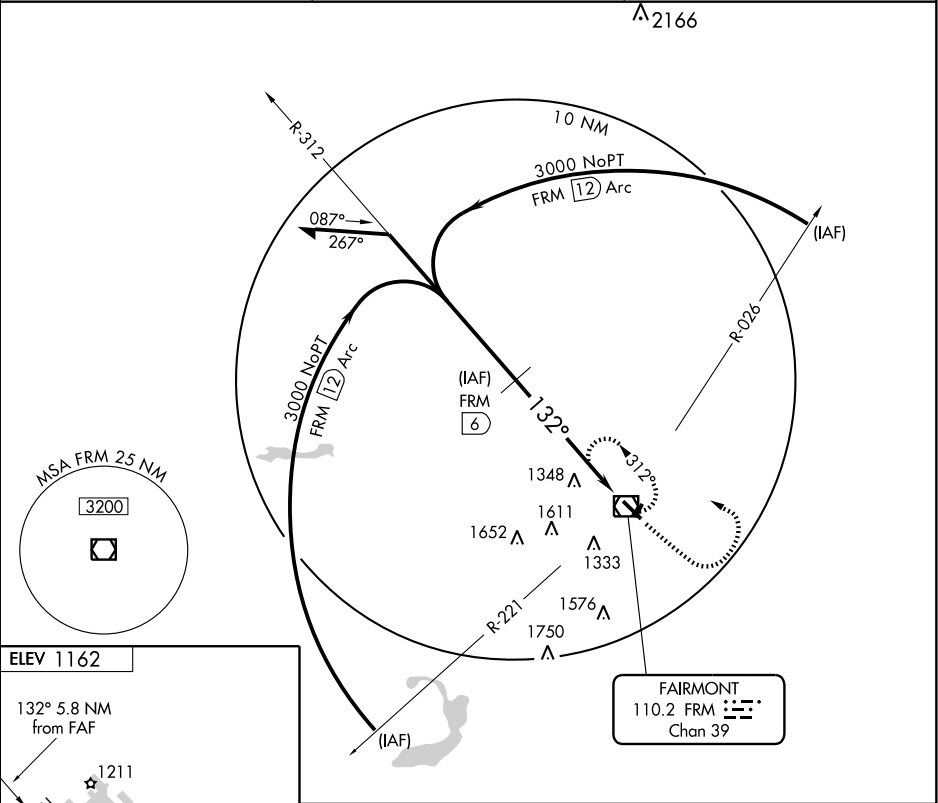
VOR/DME FRM	APP CRS	Rwy Idg	5505
110.2	132°	TDZE	1162
Chan 39		Apt Elev	1162

VOR/DME RWY 13

FAIRMONT MUNI (FRM)

<div>MISSED APPROACH: Climb to 2500 then climbing left turn to 3000 direct FRM VOR/DME and hold.</div>
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AWOS-3 110.2	MINNEAPOLIS CENTER 127.75 257.7	UNICOM 122.8 (CTAF) 1
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VOR/DME FRM	APP CRS	Rwy Idg	5505
110.2	305°	TDZE	1162
Chan 39		Apt Elev	1162

VOR/DME RWY 31

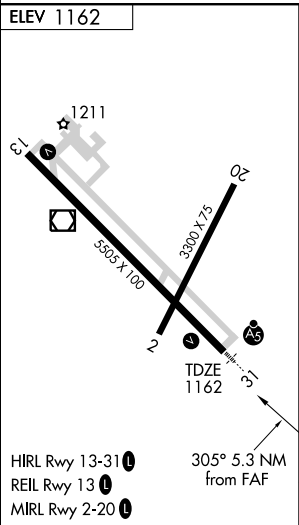
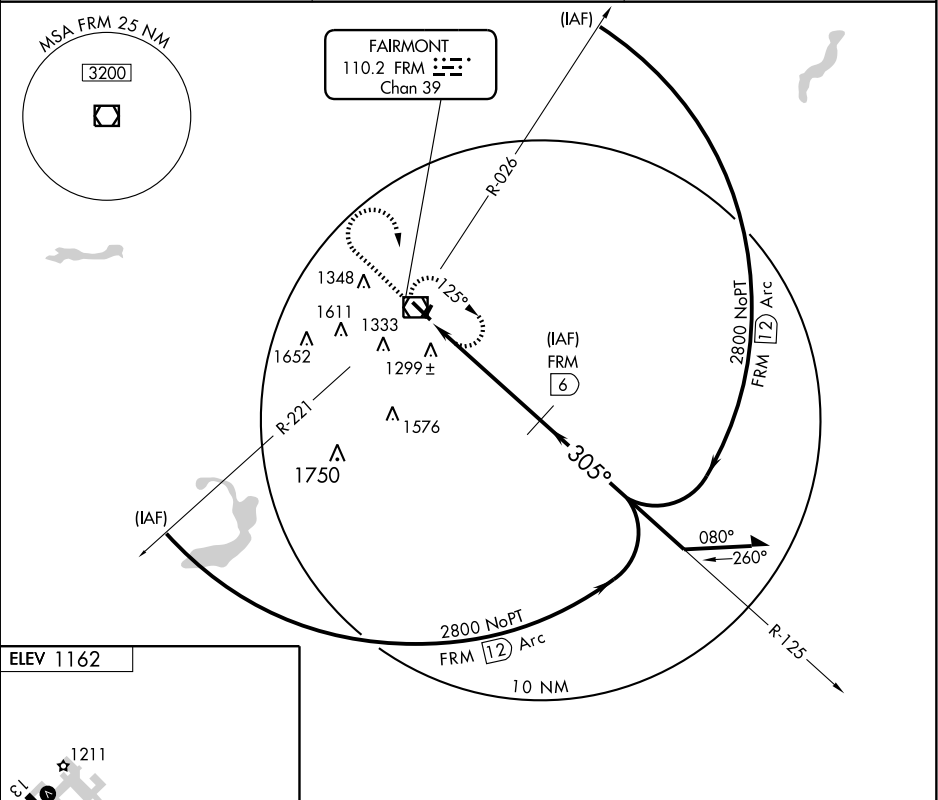
FAIRMONT MUNI (FRM)

Category D S-31 visibilities increased ¼ mile for inoperative MALSR. Inoperative components table does not apply to Categories A, B and C.

MALSR

MISSED APPROACH: Climb to 2500 then climbing right turn to 3000 direct FRM VOR/DME and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
110.2	127.75 257.7	122.8 (CTAF) 1



2500	3000	FRM 110.2	FRM 6	Remain within 10 NM
VOR/DME	FRM 1.8	FRM 1	2800	125°
0.3	0.8	4.2 NM	2.83° TCH 43	305°
CATEGORY	A	B	C	D
S-31	1560-1 398 (400-1)			
CIRCLING	1660-1 498 (500-1)		1660-1 ½ 498 (500-1½)	1720-2 558 (600-2)

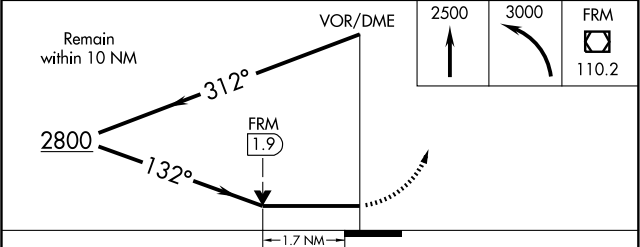
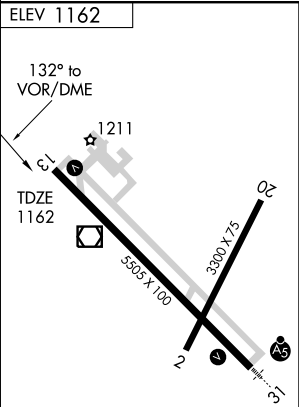
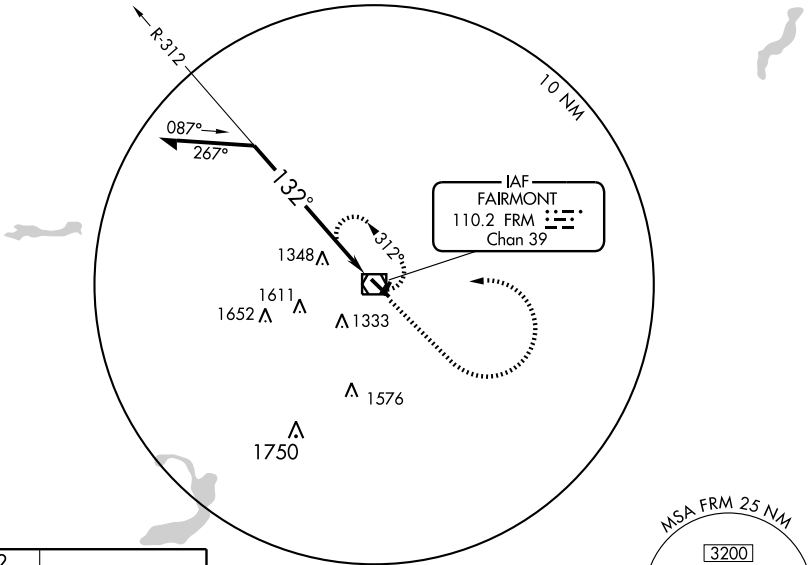
VOR/DME FRM <b>110.2</b> Chan <b>39</b>	APP CRS <b>132°</b>	Rwy Idg TDZE Apt Elev	<b>5505</b> <b>1162</b> <b>1162</b>
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VOR RWY 13  
FAIRMONT MUNI (FRM)

▼ Visibility reduction by helicopters NA.  
▲ When local altimeter setting not received, use St. James altimeter setting and increase all MDA 80 feet, increase S-13 Cat C/D visibility and circling Cat C visibility ¼ mile.  
VDP NA when using St. James altimeter setting.

MISSED APPROACH: Climb to 2500 then climbing left turn to 3000 direct FRM VOR/DME and hold.

AWOS-3 <b>110.2</b>	MINNEAPOLIS CENTER <b>127.75 257.7</b>	UNICOM <b>122.8 (CTAF) 0</b>
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HIRL Rwy 13-31  
REIL Rwy 13  
MIRL Rwy 2-20

CATEGORY	A	B	C	D
S-13	1740-1 578 (600-1)	1740-1½ 578 (600-1½)	1740-1¾ 578 (600-1¾)	1740-2 578 (600-2)
CIRCLING	1740-1 578 (600-1)	1740-1½ 578 (600-1½)	1740-2 578 (600-2)	1740-2 578 (600-2)

VOR RWY 31  
FAIRMONT MUNI (FRM)

VOR/DME FRM	APP CRS	Rwy Idg	5505
110.2	305°	TDZE	1162
Chan 39		Apt Elev	1162

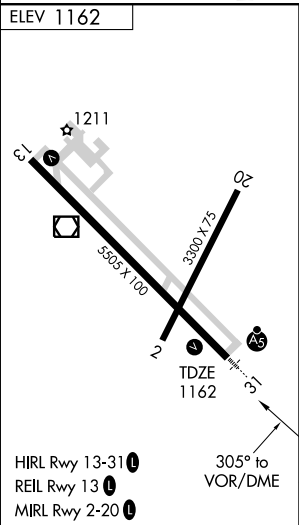
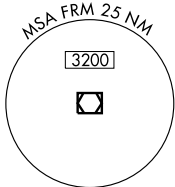
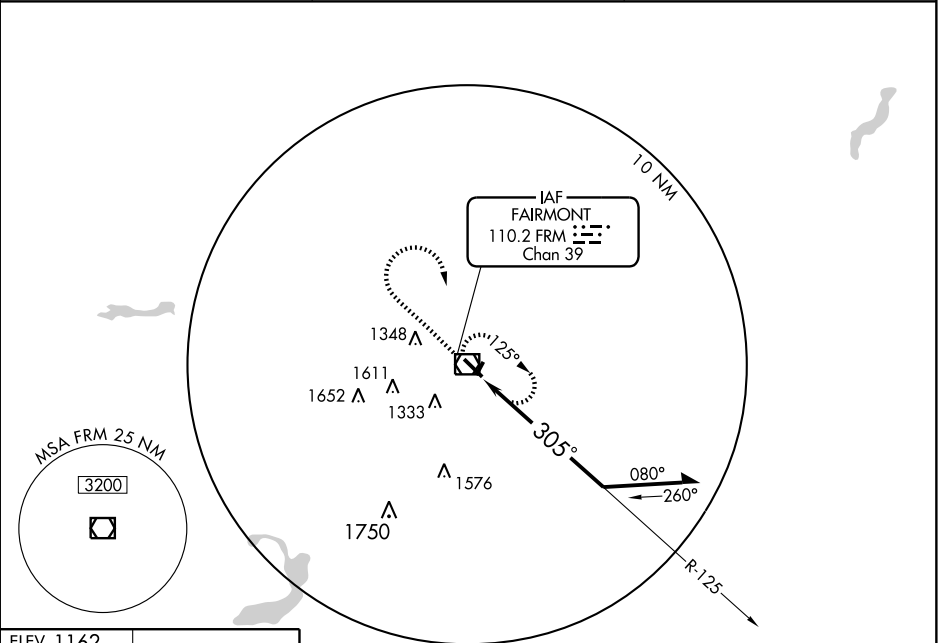
When local altimeter setting not received, use St. James altimeter setting and increase all MDA 80 feet, increase S-31 Cat C/D visibility and circling Cat C visibility ¼ mile. VDP NA when using St. James altimeter setting.

MALSR



MISSED APPROACH: Climb to 2500 then climbing right turn to 3000 direct FRM VOR/DME and hold.

AWOS-3 110.2	MINNEAPOLIS CENTER 127.75 257.7	UNICOM 122.8 (CTAF) 0
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2500	3000	FRM 110.2	VOR/DME	125°	305°	2800	Remain within 10 NM
CATEGORY	A	B	C	D			
S-31	1700-1/2	538 (600-1/2)	1700-1 538 (600-1)	1700-1/4 538 (600-1/4)			
CIRCLING	1700-1	538 (600-1)	1700-1/2 538 (600-1/2)	1720-2 558 (600-2)			

## AGUDE ONE ARRIVAL

ST-263 (FAA)

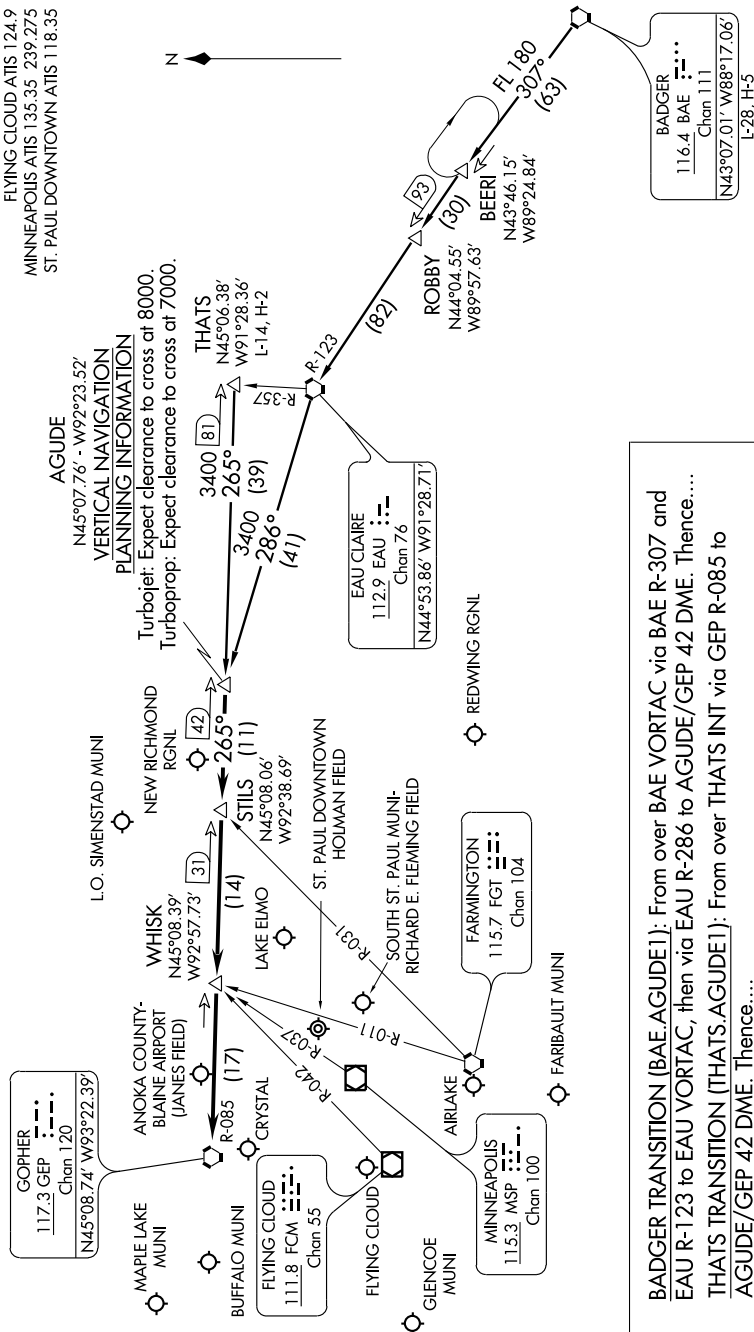
MINNEAPOLIS-ST. PAUL, MINNESOTA

MINNEAPOLIS APP CON  
126.95 335.5  
ANOKA COUNTY ATIS 120.625  
CRYSTAL ATIS 124.475  
FLYING CLOUD ATIS 124.9  
MINNEAPOLIS ATIS 135.35 239.275  
ST. PAUL DOWNTOWN ATIS 118.35

## AGUDE

N45°07.76' - W92°23.52'  
VERTICAL NAVIGATION  
PLANNING INFORMATION

Turbopjet: Expect clearance to cross at 8000.  
Turboprop: Expect clearance to cross at 7000.



NOTE: DME and RADAR required.  
NOTE: Chart not to scale.

BADGER TRANSITION (BAE AGUDE1): From over BAE VORTAC via BAE R-307 and EAU R-123 to EAU VORTAC, then via EAU R-286 to AGUDE/GEF 42 DME. Thence....  
THATS TRANSITION (THATS.AGUDE1): From over THATS INT via GEP R-085 to AGUDE/GEF 42 DME. Thence....

....From over AGUDE/GEF 42 DME via the GEP R-085 to GEP VORTAC, then expect radar vector to final approach course.

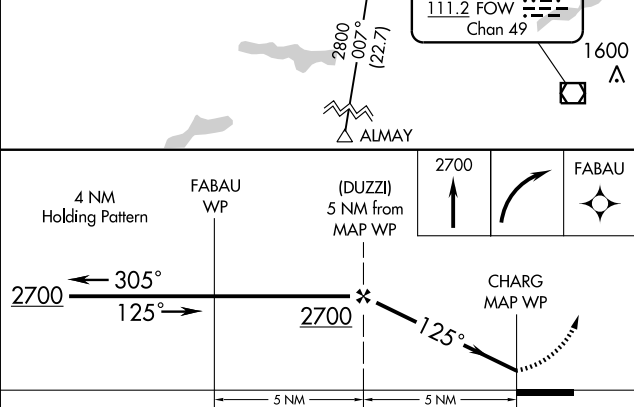
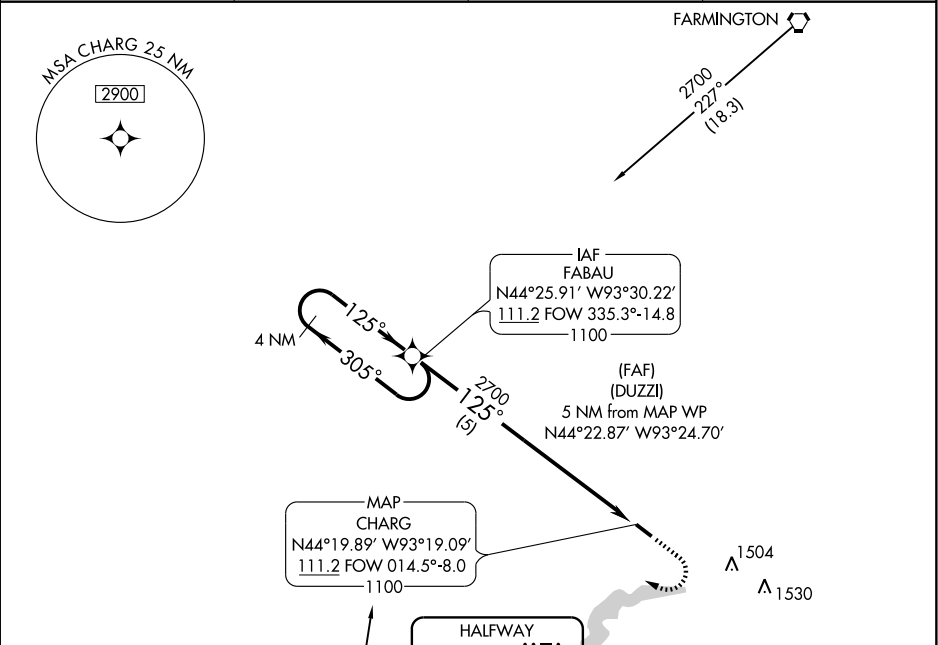


VOR/DME FOW	APP CRS	Rwy Idg	4254
111.2	125°	TDZE	1060
Chan 49		Apt Elev	1060

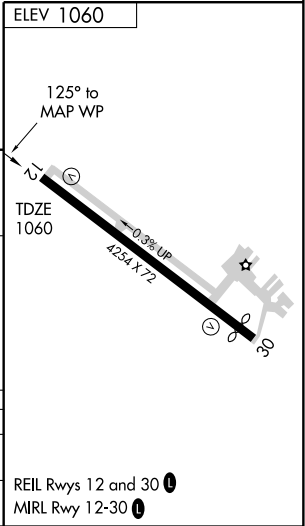
# VOR/DME RNAV or GPS RWY 12

FARIBAULT MUNI (FBL)

NA		MISSED APPROACH: Climb to 2700 then right turn direct FABAU WP and hold.	
AWOS-3 111.2	MINNEAPOLIS APP CON 134.7 284.7	GCO 121.725	UNICOM 122.8 (CTAF) 0



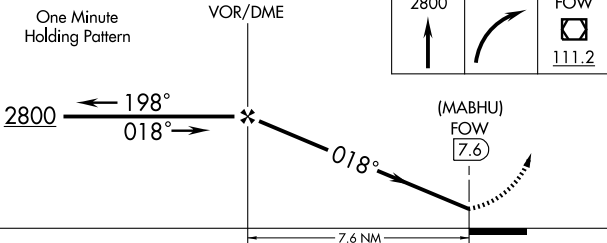
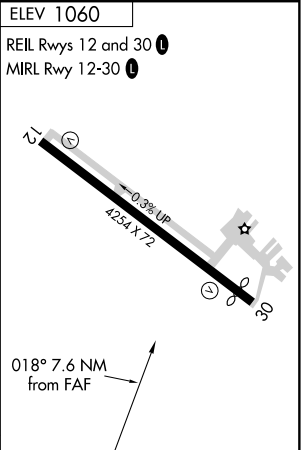
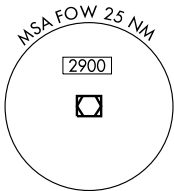
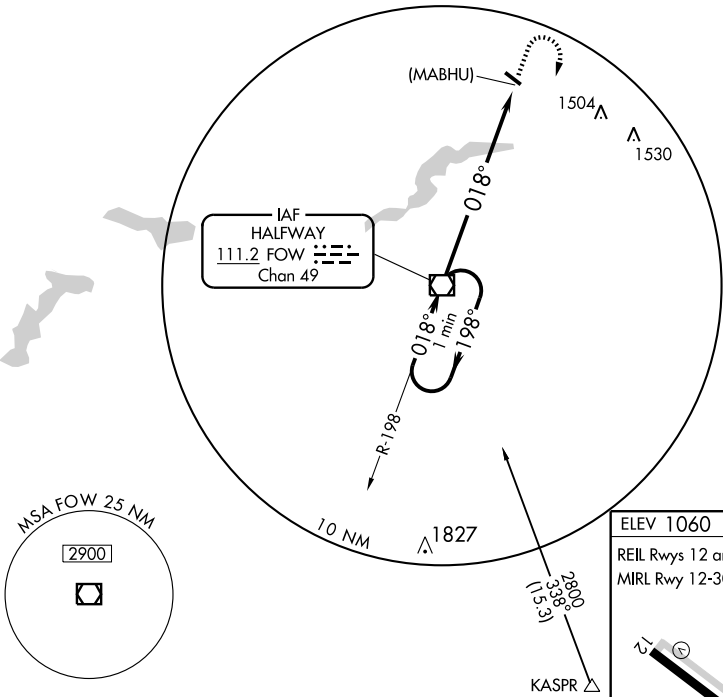
CATEGORY	A	B	C	D
S-12	1520-1	460 (500-1)	1520-1¼ 460 (500-1¼)	NA
CIRCLING	1520-1 460 (500-1)	1540-1 480 (500-1)	1540-1½ 480 (500-1½)	NA



VOR or GPS-A  
FARIBAULT MUNI (FBL)

VOR/DME FOW <b>111.2</b> Chan <b>49</b>	APP CRS <b>018°</b>	Rwy Idg TDZE Apt Elev	<b>N/A</b> <b>N/A</b> <b>1060</b>
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▲ NA		MISSED APPROACH: Climb to 2800 then right turn direct FOW VOR/DME and hold.	
AWOS-3 <b>111.2</b>	MINNEAPOLIS APP CON <b>134.7 284.7</b>	GCO <b>121.725</b>	UNICOM <b>122.8</b> (CTAF) <b>1</b>



CATEGORY	A	B	C	D	FAF to MAP 7.6 NM					
CIRCLING	1640-1	580 (600-1)	1640-1½ 580 (600-1½)	NA	Knots	60	90	120	150	180
					Min:Sec	7:36	5:04	3:48	3:02	2:32



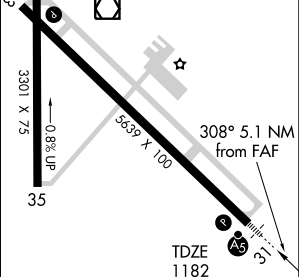
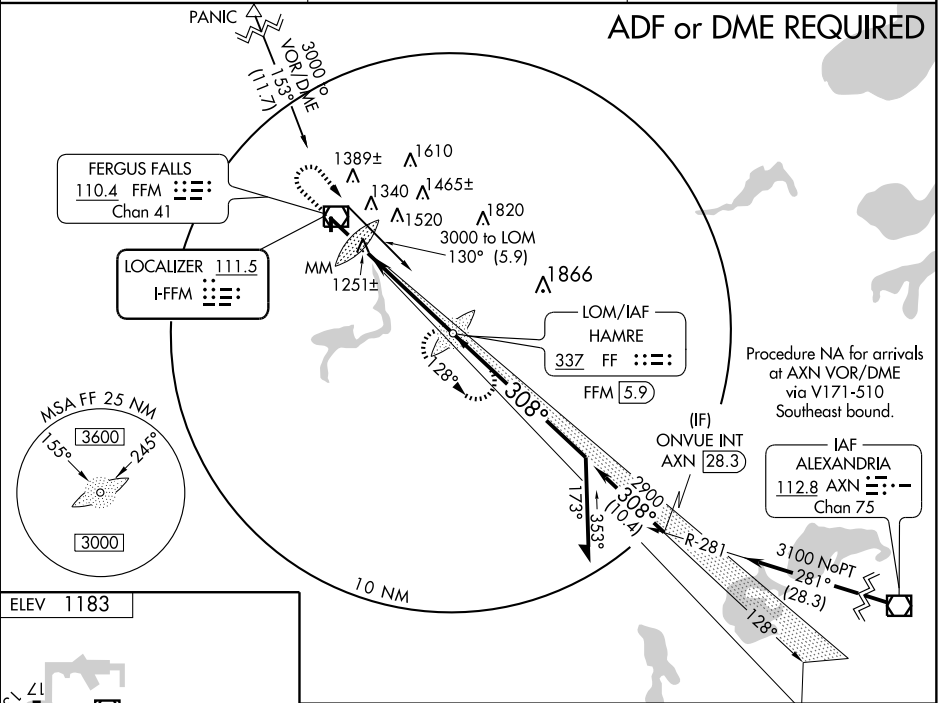
LOC I-FFM	APP CRS	Rwy Idg	5639
111.5	308°	TDZE	1182
		Apt Elev	1183

ILS or LOC RWY 31

FERGUS FALLS MUNI-EINAR MICKELSON FIELD (F'FM)

<p><b>⚠</b> When local altimeter setting not received, use Wheaton altimeter setting and increase all DA 102 feet and all MDA 120 feet, increase S-LOC 31 and Circling Cat C and D visibility ½ mile. For inoperative MALSRS, increase S-LOC 31 Cat D visibility ¼ mile. For inoperative MALSRS when using Wheaton altimeter setting, increase S-ILS 31 all Cts visibility ½ mile. GS unusable for coupled approaches below 1400.</p>	<p>MALSRS</p> <p></p>	<p>MISSED APPROACH: Climb to 3000 then right turn direct HAMRE LOM/FFM 5.9 DME and hold.</p>
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AWOS-3 110.4	PRINCETON RADIO 122.35	UNICOM 122.8 (CTAF) <b>0</b>
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REIL Rwy 13 and 35					
MRL Rwy 13-31 and 17-35					
FAF to MAP 5.1 NM					
Knots	60	90	120	150	180
Min:Sec	5:06	3:24	2:33	2:02	1:42
CATEGORY	A	B	C	D	
S-ILS 31	1382-½ 200 (200-½)				
S-LOC 31	1520-½ 338 (400-½)			1520-¾ 338 (400-¾)	
CIRCLING	1640-1 457 (500-1)	1740-1 557 (600-1)	1740-1½ 557 (600-1½)	1880-2¼ 697 (700-2¼)	

NDB RWY 31

LOM FF	APP CRS	Rwy Idg	5639
337	309°	TDZE	1182
		Apt Elev	1183

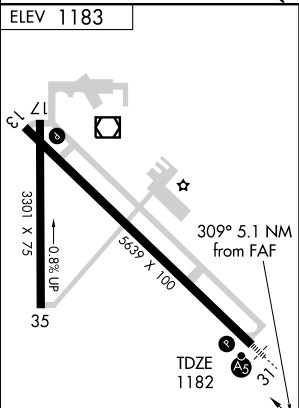
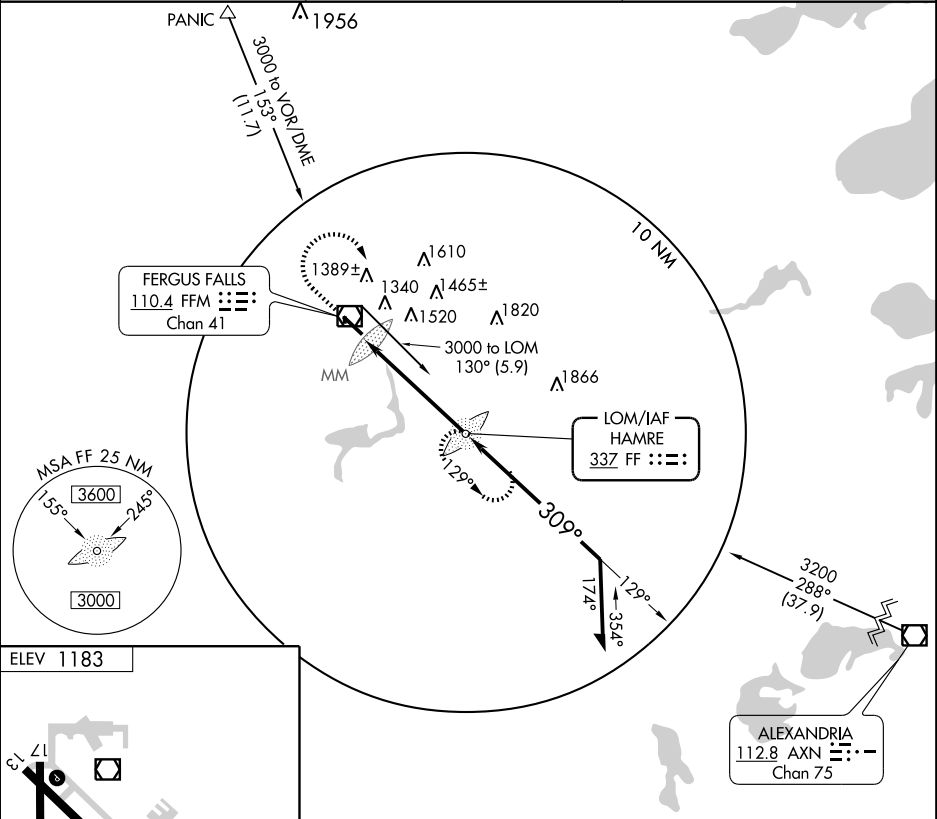
FERGUS FALLS MUNI-EINAR MICKELSON FIELD (F'FM)

**⚠** When local altimeter setting not received, use Wheaton altimeter setting and increase all MDA 120 feet, S-31 and Circling Cats C and D visibility ½ mile, Circling Cat B ¼ mile. For inoperative MALSR when using Wheaton altimeter setting, increase S-31 Cat B visibility ½ mile.

**MALSR**  
A5

**MISSED APPROACH:**  
Climb to 3000 then right turn direct FF LOM and hold.

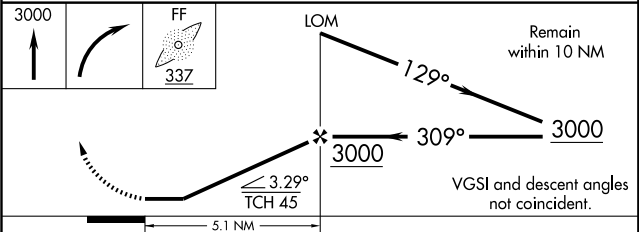
AWOS-3 110.4	PRINCETON RADIO 122.35	UNICOM 122.8 (CTAF) 0
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REIL Rwy 13 and 35 0  
MIRL Rwy 13-31 and 17-35 0

FAF to MAP 5.1 NM

Knots	60	90	120	150	180
Min:Sec	5:06	3:24	2:33	2:02	1:42



CATEGORY	A	B	C	D
S-31	1880-¾ 698 (700-¾)		1880-1½ 698 (700-1½)	1880-2 698 (700-2)
CIRCLING	1880-1 697 (700-1)		1880-2 697 (700-2)	1880-2¼ 697 (700-2¼)

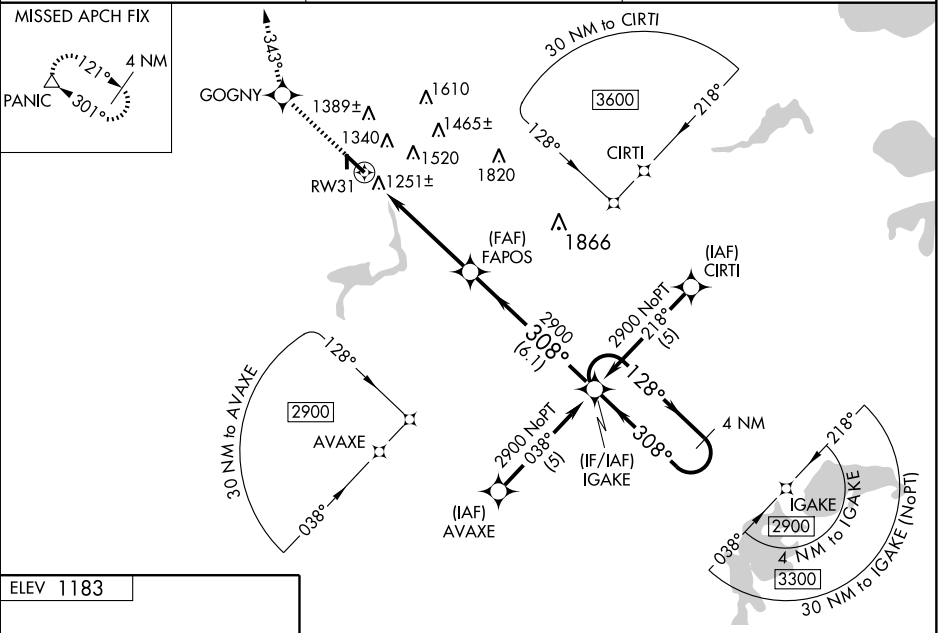
WAAS CH <b>42614</b> <b>W31A</b>	APP CRS <b>308°</b>	Rwy Idg TDZE Apt Elev	<b>5639</b> <b>1182</b> <b>1183</b>
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RNAV (GPS) RWY 31

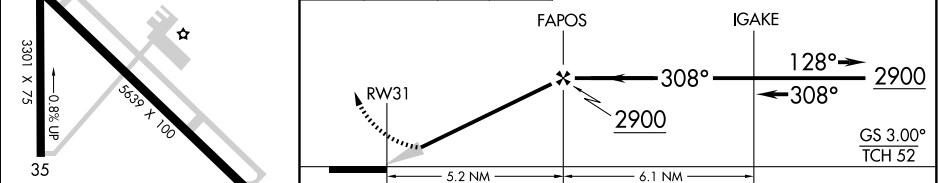
FERGUS FALLS MUNI-EINAR MICKELSON FIELD (F'FM)

<p><b>⚠</b> Inoperative table does not apply to LNAV Cat D. Baro-VNAV NA when using Wheaton altimeter setting. DME/DME RNP-0.3 NA. When local altimeter setting not received, use Wheaton altimeter setting and increase all DA 102 feet and all MDA 120 feet, LNAV/VNAV all Cats and Circling Cats C and D visibility ½ mile and LNAV Cat C ¼ mile. For inoperative MALSR when using Wheaton altimeter setting, increase LPV all Cats visibility ½ mile.</p>	<p>MALSR</p> <p><b>AS</b></p>	<p>MISSED APPROACH: Climb to 3000 direct GOGNY and via track 343° to PANIC and hold.</p>
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AWOS-3 <b>110.4</b>	PRINCETON RADIO <b>122.35</b>	UNICOM <b>122.8 (CTAF) 0</b>
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ELEV 1183	3000	GOGNY	343° TRK	PANIC	VGSI and RNAV glidepath not coincident.	4 NM Holding Pattern
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CATEGORY	A	B	C	D
LPV DA	1382-½	200 (200-½)		
LNAV/VNAV DA	1545-¾	363 (400-¾)		
LNAV MDA	1520-½	338 (400-½)		1520-1 338 (400-1)
CIRCLING	1640-1 457 (500-1)	1740-1 557 (600-1)	1740-1½ 557 (600-1½)	1880-2¼ 697 (700-2¼)

REIL Rwy 13 and 35 0  
MIRL Rwy 13-31 and 17-35 0

APP CRS	Rwy Idg	<b>3301</b>
<b>354°</b>	TDZE	<b>1182</b>
	Apt Elev	<b>1183</b>

## RNAV (GPS) RWY 35

FERGUS FALLS MUNI-EINAR MICKELSON FIELD (FFM)

**T** DME/DME RNP-0.3 NA. When local altimeter setting not received, use  
**A** **Wheaton altimeter setting and increase all MDA 120 feet and LNAV Cat C**  
**visibility ¼ mile, Circling Cat C ½ mile. VDP NA when using Wheaton**  
**altimeter setting.**

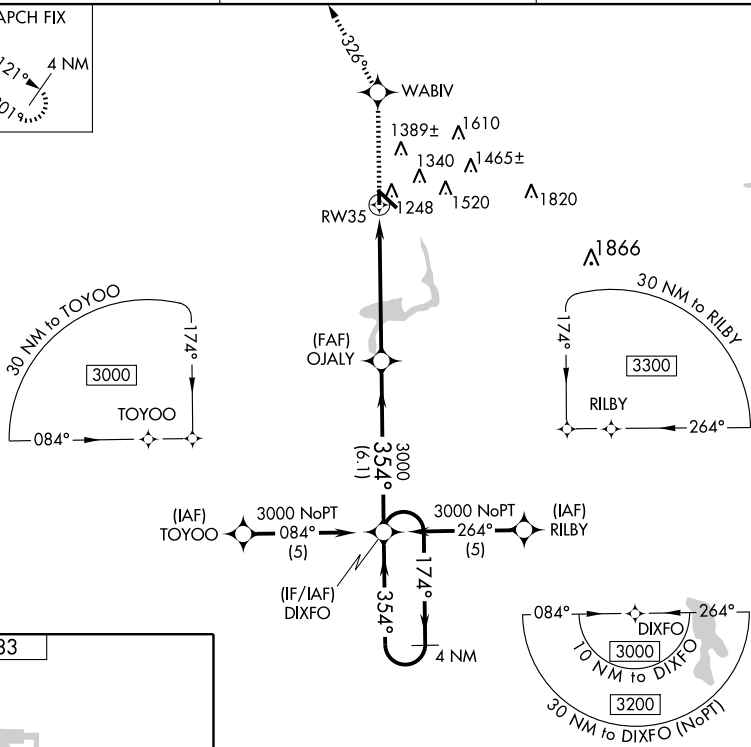
**MISSED APPROACH:** Climb to 3000  
direct WABIV and via track 326°  
to PANIC and hold.

AWOS-3  
110.4

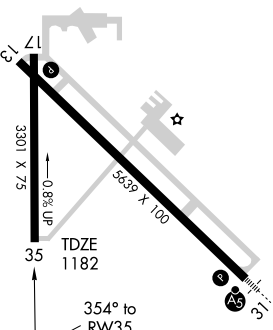
PRINCETON RADIO  
**122.35**

UNICOM  
122.8 (CTAF) **L**

## MISSED APCH FIX



ELEV 1183



REIL Rwys 13 and 35 **L**  
MIRL Rwys 13-31 and 17-35 **L**

Diagram illustrating the RW35 holding pattern. The pattern is defined by the following parameters:

- Altitude: 3000
- Heading: WABIV
- Track: 326° TRK
- Pattern: PANIC (triangle symbol)
- Pattern Type: 4 NM Holding Pattern
- Turn 1: 0.9 NM to RW35
- Turn 2: 354°
- Turn 3: 174°
- Turn 4: 354°
- Turn 5: 174°
- Turn 6: 354°
- Turn 7: 174°
- Turn 8: 354°
- Turn 9: 174°
- Turn 10: 354°
- Turn 11: 174°
- Turn 12: 354°
- Turn 13: 174°
- Turn 14: 354°
- Turn 15: 174°
- Turn 16: 354°
- Turn 17: 174°
- Turn 18: 354°
- Turn 19: 174°
- Turn 20: 354°
- Turn 21: 174°
- Turn 22: 354°
- Turn 23: 174°
- Turn 24: 354°
- Turn 25: 174°
- Turn 26: 354°
- Turn 27: 174°
- Turn 28: 354°
- Turn 29: 174°
- Turn 30: 354°
- Turn 31: 174°
- Turn 32: 354°
- Turn 33: 174°
- Turn 34: 354°
- Turn 35: 174°
- Turn 36: 354°
- Turn 37: 174°
- Turn 38: 354°
- Turn 39: 174°
- Turn 40: 354°
- Turn 41: 174°
- Turn 42: 354°
- Turn 43: 174°
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- Turn 47: 174°
- Turn 48: 354°
- Turn 49: 174°
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- Turn 51: 174°
- Turn 52: 354°
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- Turn 63: 174°
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- Turn 66: 354°
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- Turn 226: 354°
- Turn 227: 174°
- Turn 228: 354°
- Turn 229: 174°
- Turn 230: 354°
- Turn 231: 1

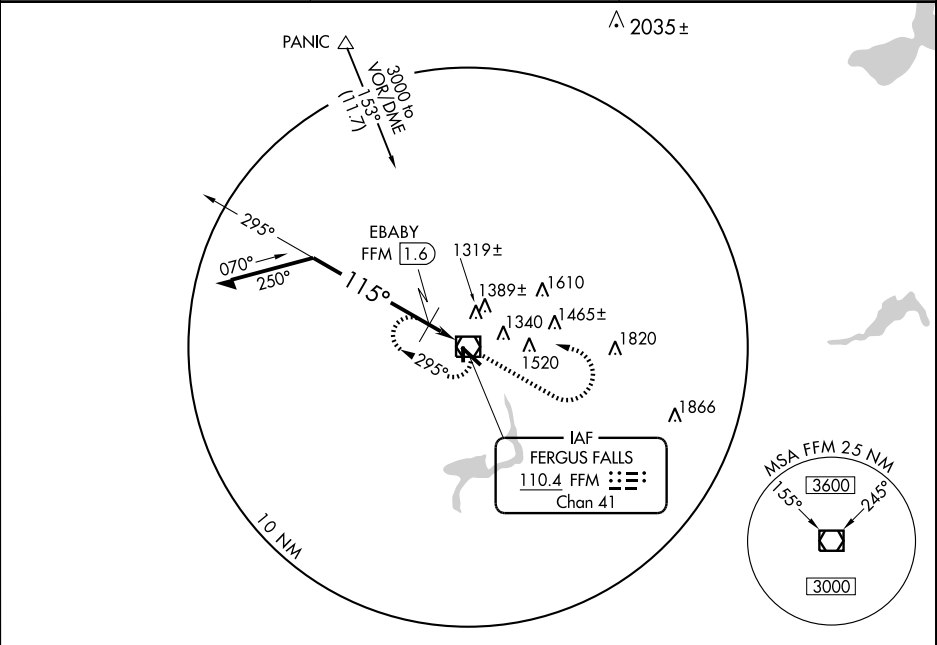
VOR RWY 13

VOR/DME FFM	APP CRS	Rwy Idg	5639
110.4	115°	TDZE	1182
Chan 41		Apt Elev	1183

FERGUS FALLS MUNI-EINAR MICKELSON FIELD (F'FM)

<p><b>⚠</b> Cat D straight-in minima NA when using Wheaton altimeter setting. When local altimeter setting not received, use Wheaton altimeter setting and increase all MDA 120 feet, and S-13 Cat C and D visibility ¼ mile, Circling Cat C and D visibility ½ mile, increase EBABY FIX minimums S-13 and Circling Cat C and D visibility ½ mile.</p> <p><b>⚠</b> NA</p>	<p><b>MISSED APPROACH:</b> Climb to 3000 then left turn direct FFM VOR/DME and hold.</p>
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AWOS-3 110.4	PRINCETON RADIO 122.35	UNICOM 122.8 (CTAF) <b>1</b>
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ELEV 1183

115° to VOR/DME

TDZE 1182

3301 X 75

0.88% UP

35

5639 X 100

REIL Rwy 13 and 35 **1**

MIRL Rwy 13-31 and 17-35 **1**

Remain within 10 NM

VOR/DME

3000

FFM 110.4

EBABY FFM 1.6

295°

2900

115°

\*1640

2.75° TCH 50

VGSI and descent angles not coincident

1.6 NM

CATEGORY	A	B	C	D
S-13	1640-1	458 (500-1)	1640-1¼ 458 (500-1¼)	1640-1½ 458 (500-1½)
CIRCLING	1640-1 457 (500-1)	1740-1 557 (600-1)	1740-1½ 557 (600-1½)	1880-2¼ 697 (700-2¼)
EBABY FIX MINIMUMS				
S-13	1580-1 398 (400-1)			1580-1¼ 398 (400-1¼)
CIRCLING	1640-1 457 (500-1)	1740-1 557 (600-1)	1740-1½ 557 (600-1½)	1880-2¼ 697 (700-2¼)

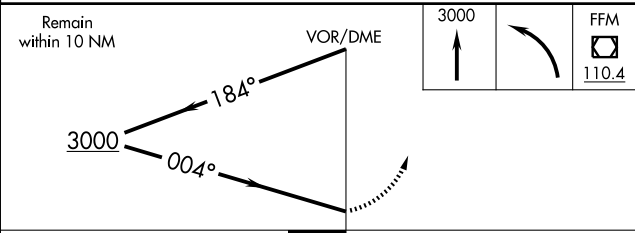
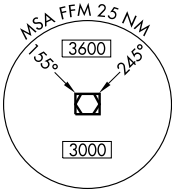
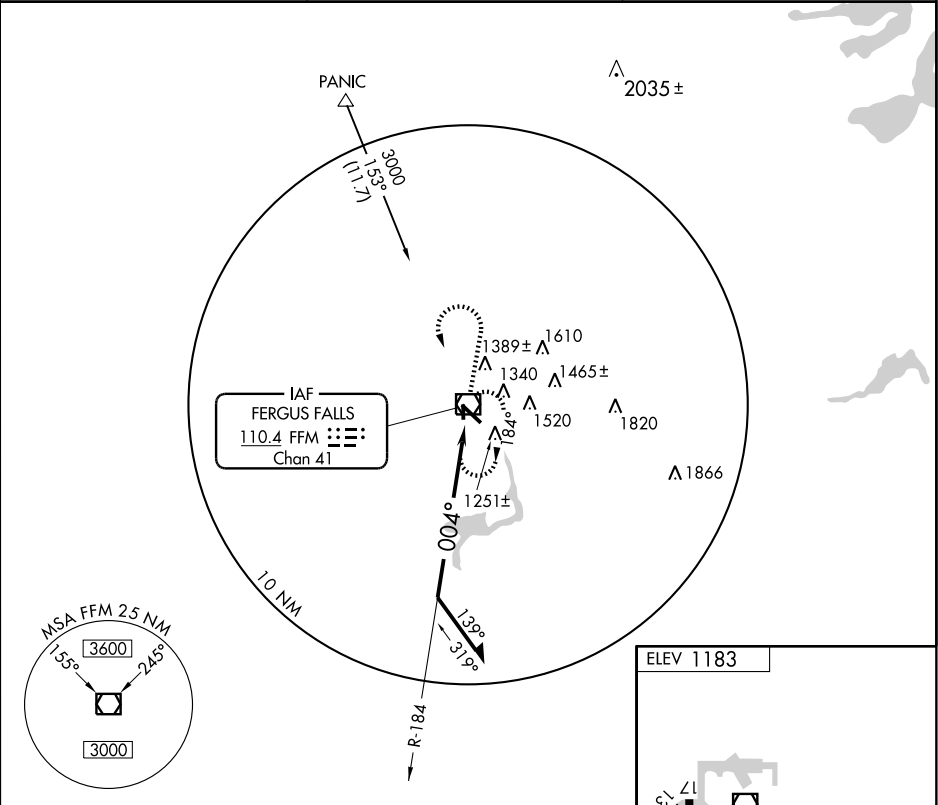
VOR RWY 35

VOR/DME FFM	APP CRS	Rwy Idg	3301
110.4	004°	TDZE	1182
Chan 41		Apt Elev	1183

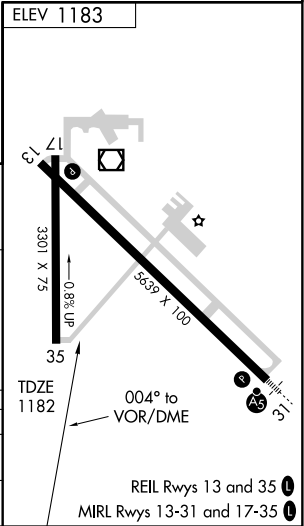
FERGUS FALLS MUNI-EINAR MICKELSON FIELD (F'FM)

<p>▼ ▲ NA</p>	<p>When local altimeter setting not received, use Wheaton altimeter setting and increase all MDA 120 feet, S-35 Cat C visibility ¼ mile and Circling Cat C visibility ½ mile</p>	<p>MISSED APPROACH: Climb to 3000 then left turn direct FFM VOR/DME and hold.</p>
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<p>AWOS-3 110.4</p>	<p>PRINCETON RADIO 122.35</p>	<p>UNICOM 122.8 (CTAF) 0</p>
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CATEGORY	A	B	C	D
S-35	1600-1	418 (500-1)	1600-1¼ 418 (500-1¼)	NA
CIRCLING	1640-1 457 (500-1)	1740-1 557 (600-1)	1740-1½ 557 (600-1½)	NA

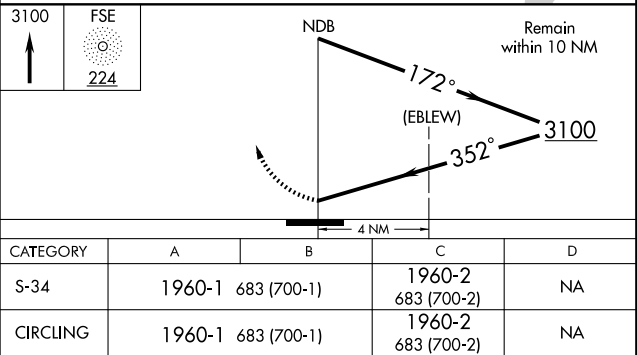
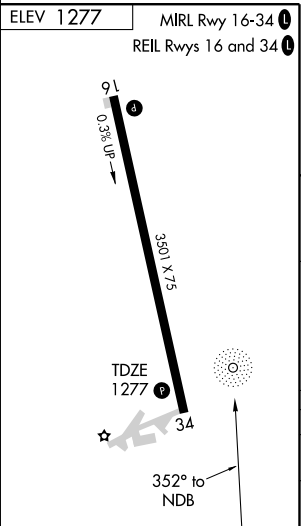
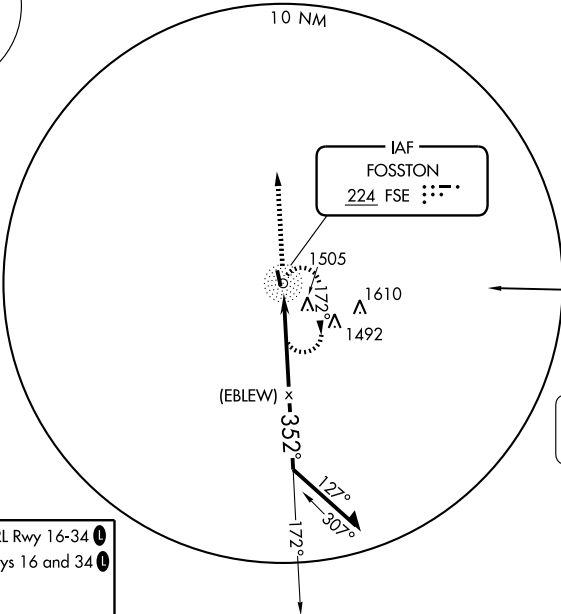
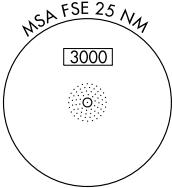


NDB FSE	APP CRS	Rwy Idg TDZE	3501
224	352°	Apt Elev	1277

# NDB or GPS RWY 34

FOSSTON MUNI (FSE)

 NA		MISSED APPROACH: Climb to 3100 then direct FSE NDB and hold.	
AWOS-3 224	MINNEAPOLIS CENTER 134.75 251.1	GCO 121.725	CTAF 122.9 



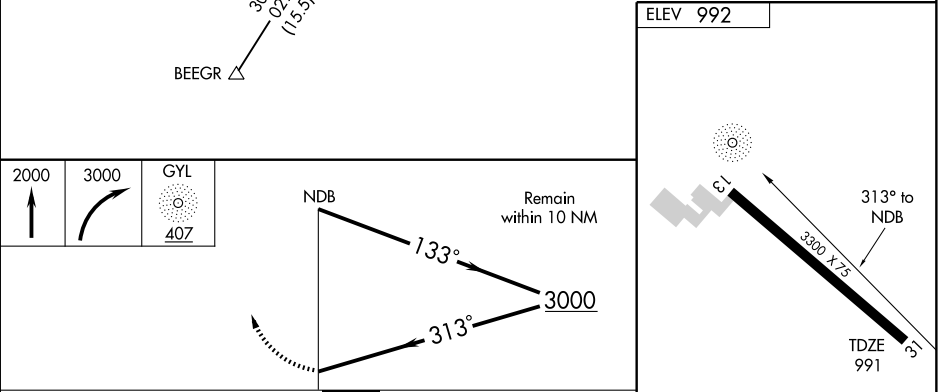
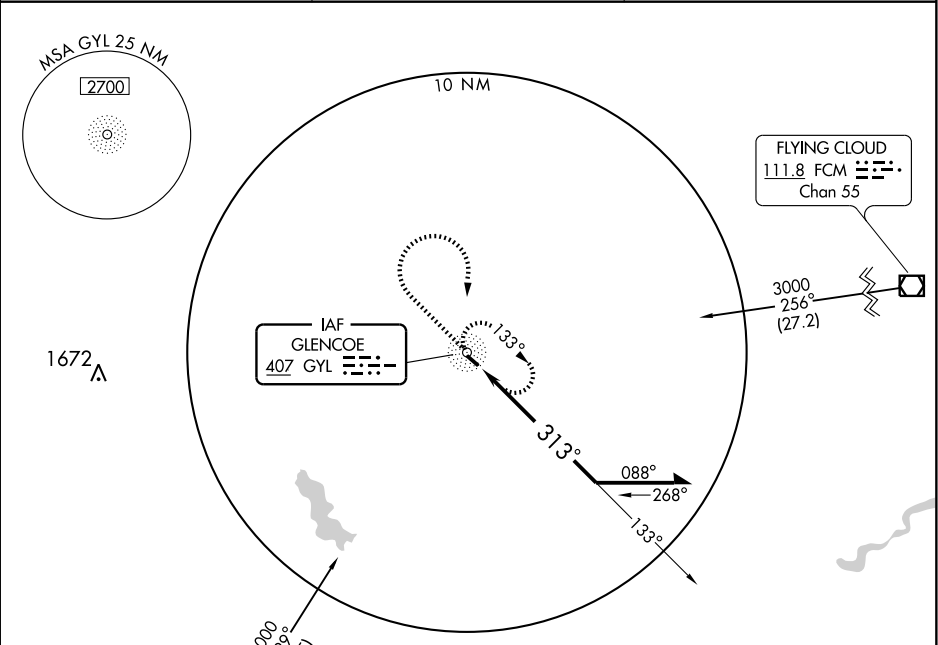




NDB GYL	APP CRS	Rwy Idg	3300
407	313°	TDZE	991
		Apt Elev	992

<div> <div></div> <div>NA</div> </div>	MISSED APPROACH: Climb to 2000 then climbing right turn to 3000 direct GYL NDB and hold.
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AWOS-3 407	MINNEAPOLIS APP CON 134.7 284.7	UNICOM 122.8 (CTAF) 0
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CATEGORY	A	B	C	D
S-31	1560-1	569 (600-1)	NA	
CIRCLING	1560-1	568 (600-1)	NA	

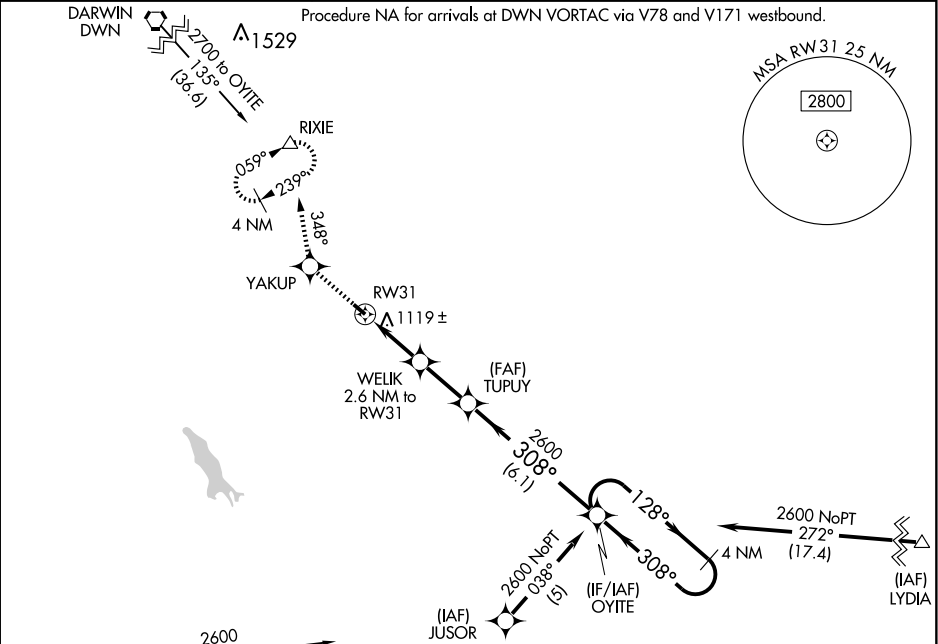
APP CRS	Rwy Idg	3300
308°	TDZE	991
	Apt Elev	992

RNAV (GPS) RWY 31

GLENCOE MUNI (GYL)

<div> <div></div> <div>DME DME/RNP-0.3 NA. Visibility reduction by helicopters NA.</div> </div> <div> <div></div> <div>When local altimeter setting not received, use Hutchinson altimeter setting and increase all MDA 60 feet.</div> </div>	<div>                     MISSED APPROACH: Climb to 3000 direct YAKUP and via 348° track to RIXIE and hold, continue climb-in-hold to 3000.                 </div>
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<div>                     AWOS-3 407                 </div>	<div>                     MINNEAPOLIS APP CON 134.7 284.7                 </div>	<div>                     UNICOM 122.8 (CTAF) 0                 </div>
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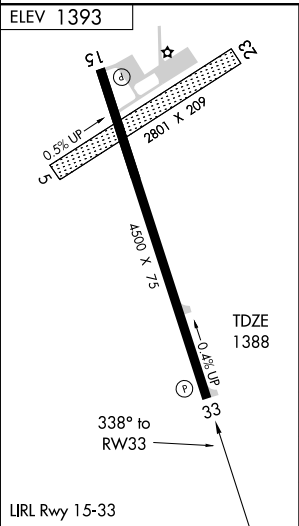
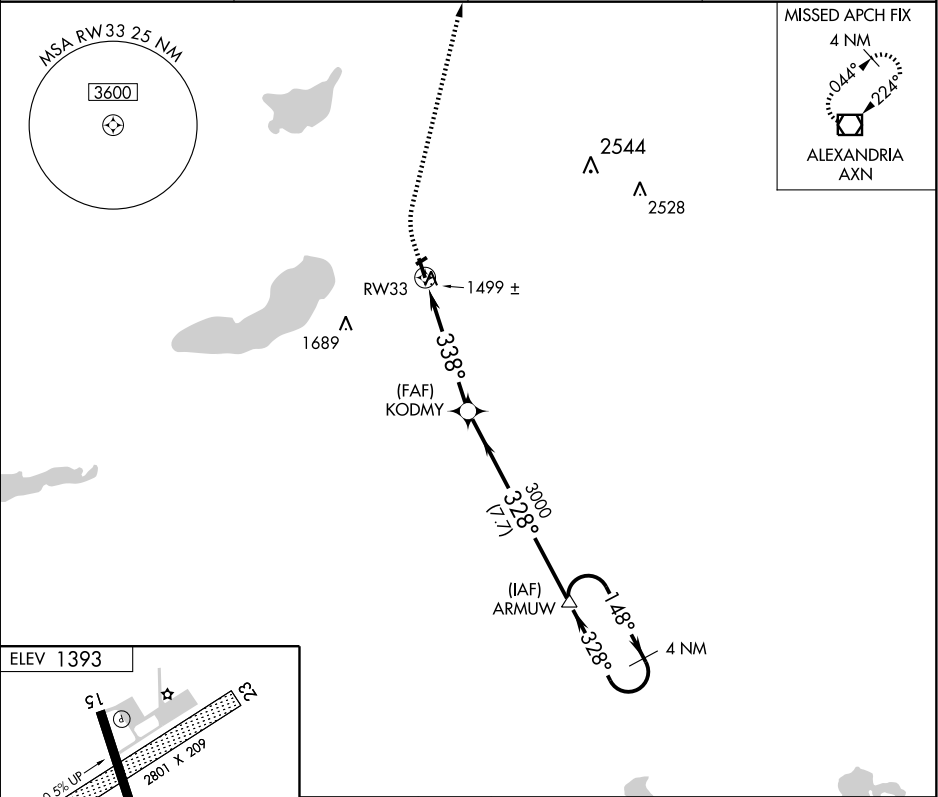
APP CRS	Rwy Idg	4500
338°	TDZE	1388
	Apt Elev	1393




# GPS RWY 33

GLENWOOD MUNI (GHW)

 NA	MISSED APPROACH: Climb to 2000, then climbing right turn to 3500 direct AXN VOR/DME and hold.		
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AWOS-3 346	MINNEAPOLIS CENTER 126.1 269.2	GCO 121.725	CTAF 122.9
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				4 NM Holding Pattern	
2000		3500	AXN	KODMY	
RW33		338°	3000	328°	148°
5 NM		7.7 NM	3000	328°	3000
CATEGORY	A	B	C	D	
S-33	1760-1 372 (400-1)			NA	
CIRCLING	1820-1 427 (500-1)	1860-1 467 (500-1)	1860-1½ 467 (500-1½)	NA	

VOR/DME AXN <b>112.8</b> Chan <b>75</b>	APP CRS <b>003°</b>	Rwy Idg <b>4500</b> TDZE <b>1388</b> Apt Elev <b>1393</b>
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VOR RWY 33  
GLENWOOD MUNI (GHW)

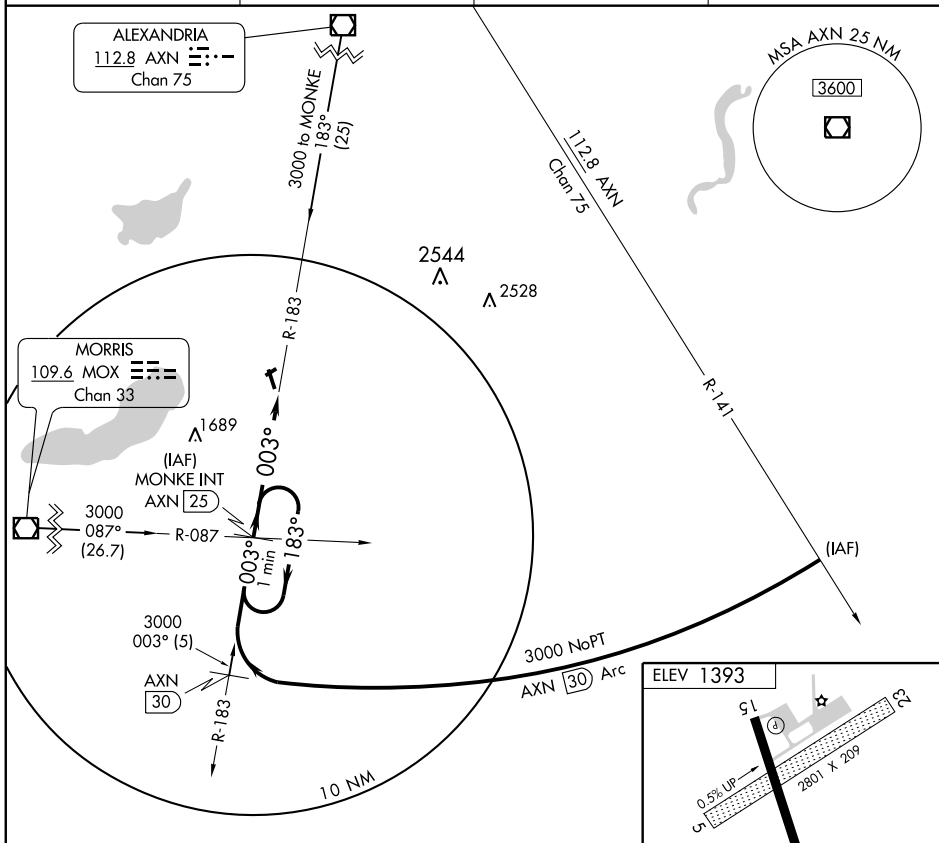
**TANA**

**MISSED APPROACH:** Climb to 2000, then climbing right turn to 3000 via AXN R-183 to MONKE Int/25 DME and hold.

AWOS-3  
346

MINNEAPOLIS CENTER  
126.1 269.2

GCO  
121.725

CTAF  
122.9

NC-1. 22 OCT 2009 to 19 NOV 2009

### One Minute Holding Pattern

MONKE INT  
AXN 25

2000

3000

MONKE

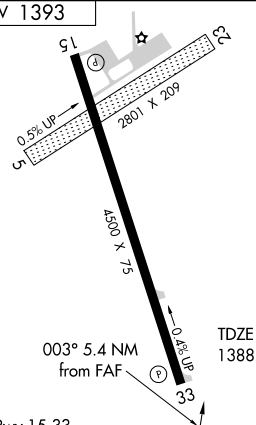
$$\begin{array}{r} \text{3000} \\ \hline \end{array} \begin{array}{l} \leftarrow 183^\circ \\ 003^\circ \rightarrow \end{array}$$

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5.4 NM —————

CATEGORY	A	B	C	D
S-33	1880-1	492 (500-1)	1880-1 $\frac{1}{4}$ 492 (500-1 $\frac{1}{4}$ )	NA
CIRCLING	1880-1	487 (500-1)	1880-1 $\frac{1}{2}$ 487 (500-1 $\frac{1}{2}$ )	NA

ELEV 1393



LIRL Rwy 15-33

FAF to MAP 5.4 NM

Knots	60	90	120	150	180
Min:Sec	5:24	3:36	2:42	2:10	1:48

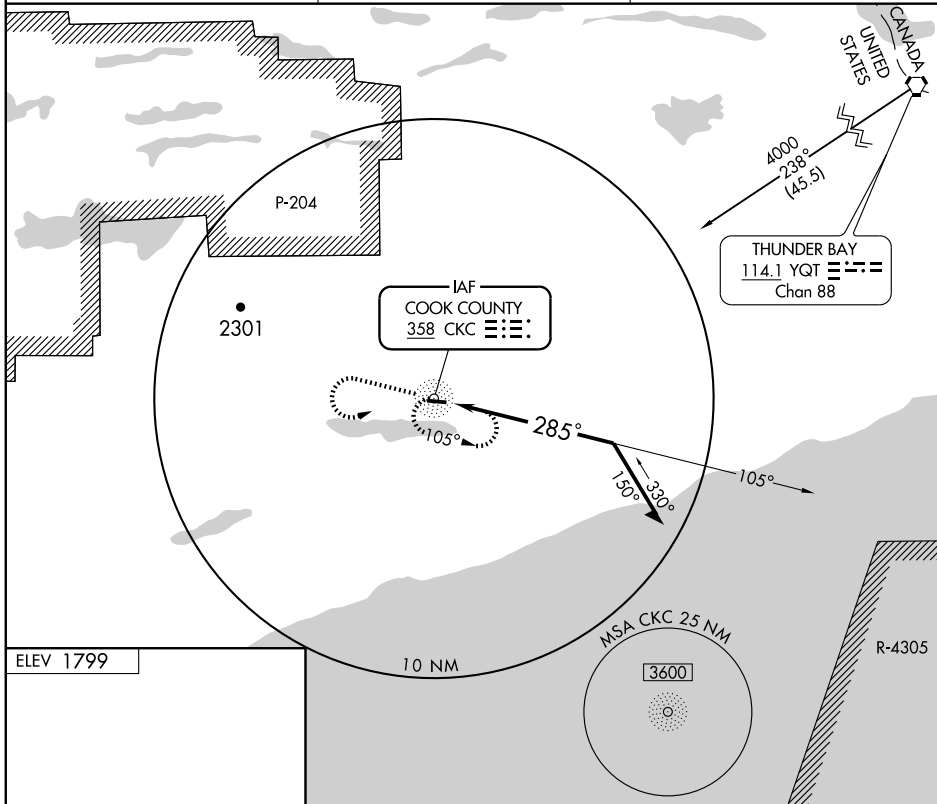
NDB CKC <b>358</b>	APP CRS <b>285°</b>	Rwy Idg TDZE Apt Elev	<b>4199</b> <b>1797</b> <b>1799</b>
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# NDB RWY 27

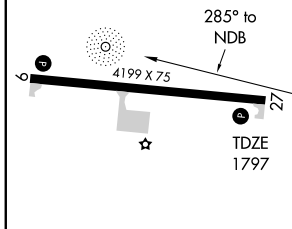
GRAND MARAIS/COOK COUNTY (CKC')

<p><b>T</b></p> <p><b>NA</b></p>	<p>MISSED APPROACH: Climb to 3000, then climbing left turn to 3500 direct CKC NDB and hold.</p>
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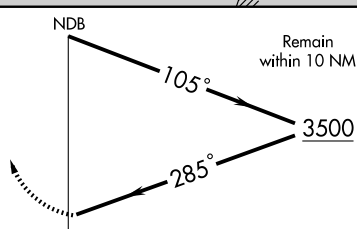
<p>AWOS-3 <b>119.925</b></p>	<p>PRINCETON RADIO <b>122.3</b></p>	<p>UNICOM <b>122.8</b> (CTAF) <b>0</b></p>
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ELEV 1799



3000	3500	CKC 358
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CATEGORY	A	B	C	D
S-27	2340-1	543 (600-1)	2340-1½ 543 (600-1½)	NA
CIRCLING	2340-1	541 (600-1)	2340-1½ 541 (600-1½)	NA

MIRL Rwy 9-27 **0**  
REIL Rwy 9 and 27 **0**

APP CRS	Rwy Idg	4199
276°	TDZE	1797
	Apt Elev	1799

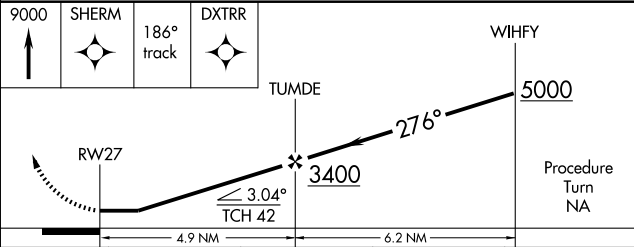
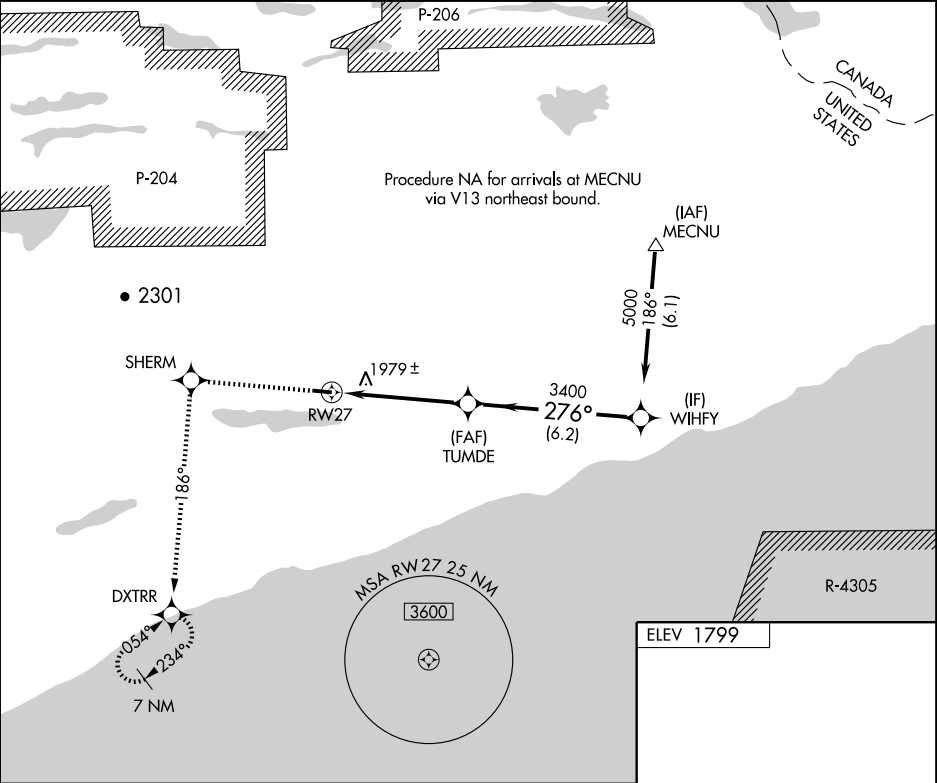
# RNAV (GPS) RWY 27

GRAND MARAIS/COOK COUNTY (CKC)

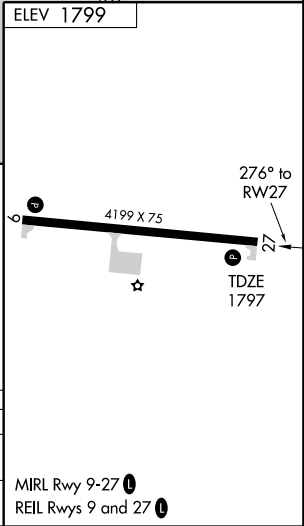
**⚠** DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA.  
**⚠** When local altimeter setting not received, use Ely altimeter setting and increase all MDA 200 feet, increase LNAV Cat C visibility ½ mile, circling Cat B visibility ¼ mile, and circling Cat C visibility ¾ mile.

**MISSED APPROACH:** Climb to 9000 direct SHERM and via 186° track to DXTRR and hold, continue climb-in-hold to 9000.

AWOS-3 119.925	PRINCETON RADIO 122.3	UNICOM 122.8 (CTAF) <b>1</b>
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CATEGORY	A	B	C	D
LNAV MDA	2240-1	443 (500-1)	2240-1¼ 443 (500-1¼)	NA
CIRCLING	2340-1	541 (600-1)	2340-1½ 541 (600-1½)	NA



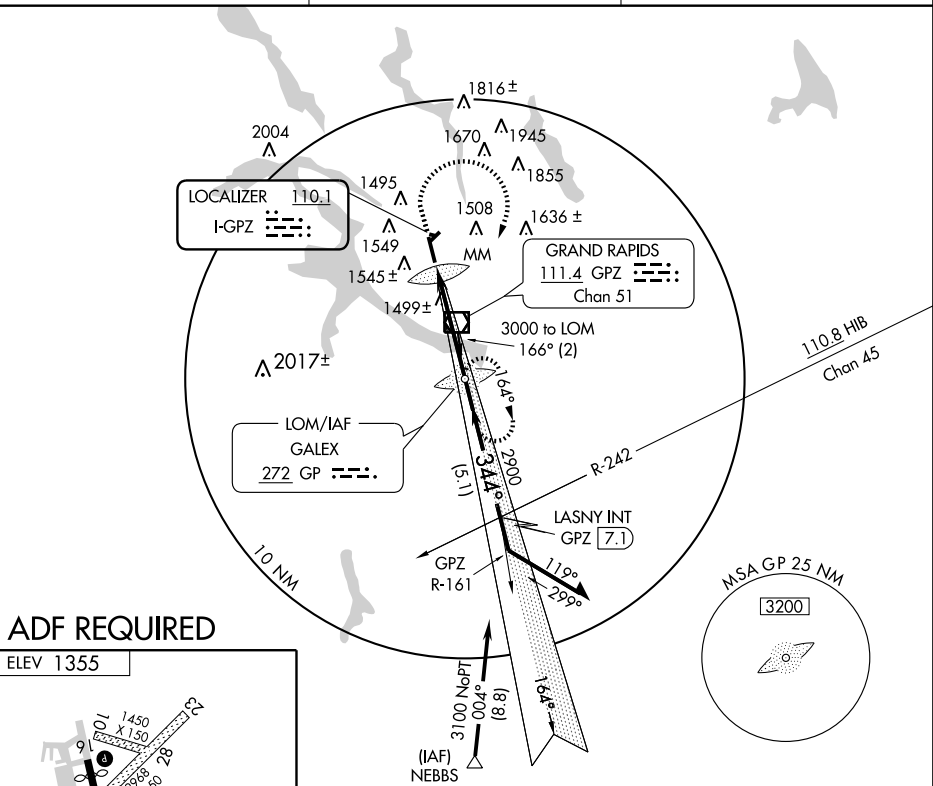
LOC I-GPZ	APP CRS	Rwy Idg	5755
110.1	344°	TDZE	1355
		Apt Elev	1355

Circling not authorized at night to Rwy 10-28 and 5-23.

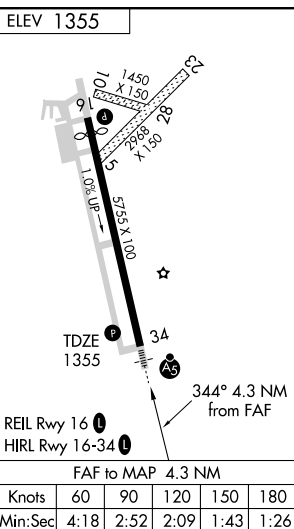
MALSR




MISSED APPROACH: Climb to 3000, then right turn direct GALEX LOM and hold.

AWOS-3 118.425	MINNEAPOLIS CENTER 127.9 281.45	UNICOM 122.8 (CTAF) 0
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ADF REQUIRED



<div><div>3000</div><div></div><div></div><div><div>GP</div><div></div><div>272</div></div></div>		<div><div>LOM</div><div>2796</div><div>164°</div><div>3000</div><div>344°</div><div>2900*</div><div>2900</div><div>*LOC only</div><div>GS 3.00°</div><div>TCH 60</div></div>		
<div><div>MM</div><div>0.4</div><div>3.9 NM</div></div>				
CATEGORY	A	B	C	D
S-ILS 34	1555-½ 200 (200-½)			
S-LOC 34	1760-½	405 (500-½)	1760-¾ 405 (500-¾)	1760-1 405 (500-1)
CIRCLING	1860-1 505 (600-1)	1900-1 545 (600-1)	1900-1½ 545 (600-1½)	1920-2 565 (600-2)

APP CRS	Rwy Idg	5332
164°	TDZE	1332
	Apt Elev	1355

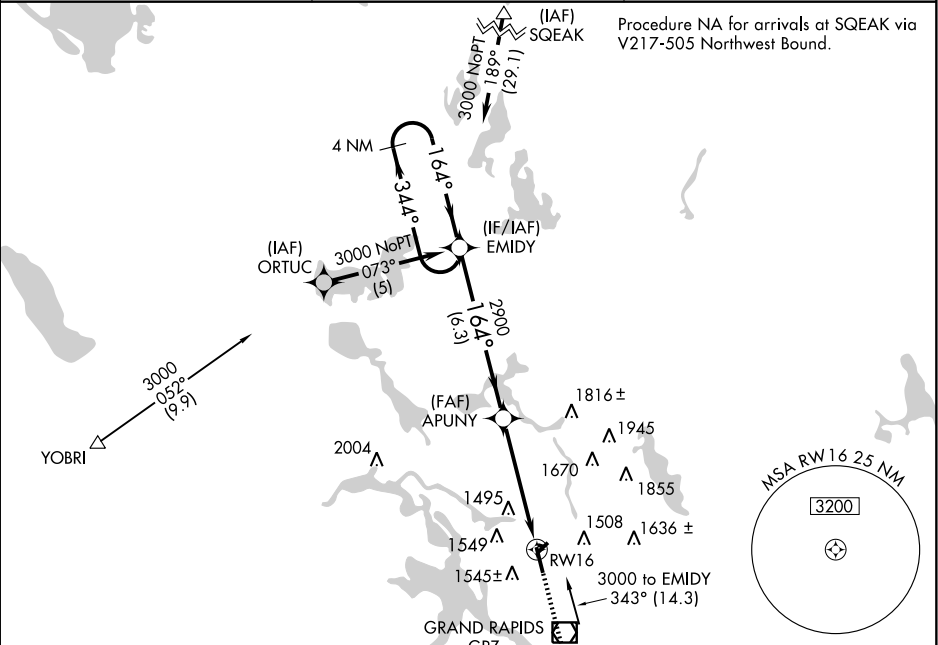
RNAV (GPS) RWY 16  
GRAND RAPIDS/ITASCA COUNTY-GORDON NEWSTROM FIELD (GPZ)

**▼** Circling to Rwy 10-28 and 5-23 NA at night. DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA. When local altimeter setting not received, use Hibbings altimeter setting and increase all MDA 80 feet and increase LNAV and Circling Cat. C. visibility ¼ mile.

**▲**

**MISSED APPROACH:**  
Climb to 2900 direct ADIER and hold.

AWOS-3 118.425	MINNEAPOLIS CENTER 127.9 281.45	UNICOM 122.8 (CTAF) <b>0</b>
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4 NM Holding Pattern				
EMIDY				
3000 ← 344° / 164° →				
APUNY				
2900				
164°				
3.04° TCH 47				
RW16				
6.3 NM				
4.8 NM				
CATEGORY	A	B	C	D
LNAV MDA	1760-1	428 (500-1)	1760-1¼ 428 (500-1¼)	1760-1½ 428 (500-1½)
CIRCLING	1900-1	545 (600-1)	1900-1½ 545 (600-1½)	1920-2 565 (600-2)

ELEV 1355

TDZE 1332

164° to RW16

1450 X 150

1450 X 150

5755 X 100

34



REIL Rwy 16 **0**

HIRL Rwy 16-34 **0**



WAAS CH <b>86412</b> <b>W34A</b>	APP CRS <b>344°</b>	Rwy Idg <b>5755</b> TDZE <b>1355</b> Apt Elev <b>1355</b>
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GRAND RAPIDS/  
ITASRNAV (GPS) RWY 34  
-GORDON NEWSTROM FIELD (GPZ)

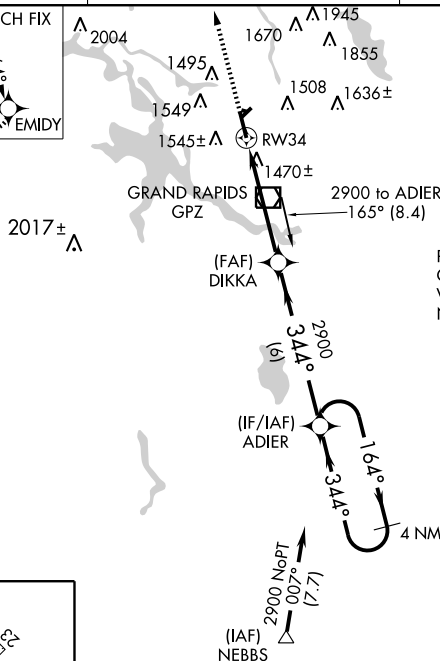
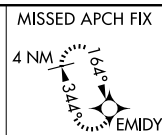


 Circling to Rwy 10-28 and 5-23 NA at night. For inoperative MALSR when using Khib altimeter setting, increase LPV all Cats. visibility to 1 mile. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (114°F). DME/DME RNP-0.3 NA. Baro-VNAV and VDP NA when using Hibbings altimeter setting. When local altimeter setting not received, use Hibbings altimeter setting and increase all DA 68 feet and all MDA 80 feet, increase LNAV/VNAV all Cats., LNAV Cat. D, and Circling Cat. C visibility ¼ mile.

MALSR

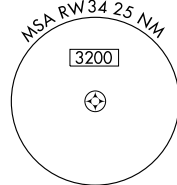
**MISSED APPROACH:**  
Climb to 3000 direct  
EMIDY and hold.

AWOS-3  
118.425

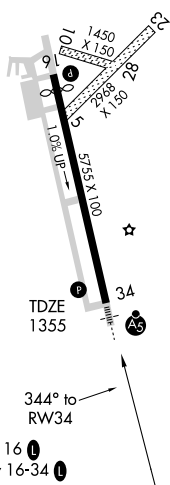
MINNEAPOLIS CENTER  
127.9 281.45

UNICOM  
122.8 (CTAF) **L**

Procedure NA for arrivals at  
GPZ VOR/DME via V430  
Westbound and V161  
Northbound.



ELEV 1355

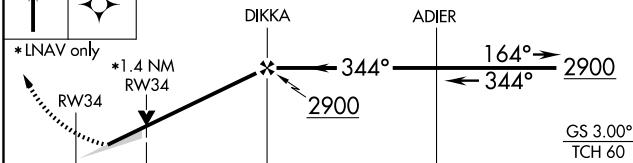


3000  
↑

EMIDY



VGSI and RNAV glide-path not coincident.

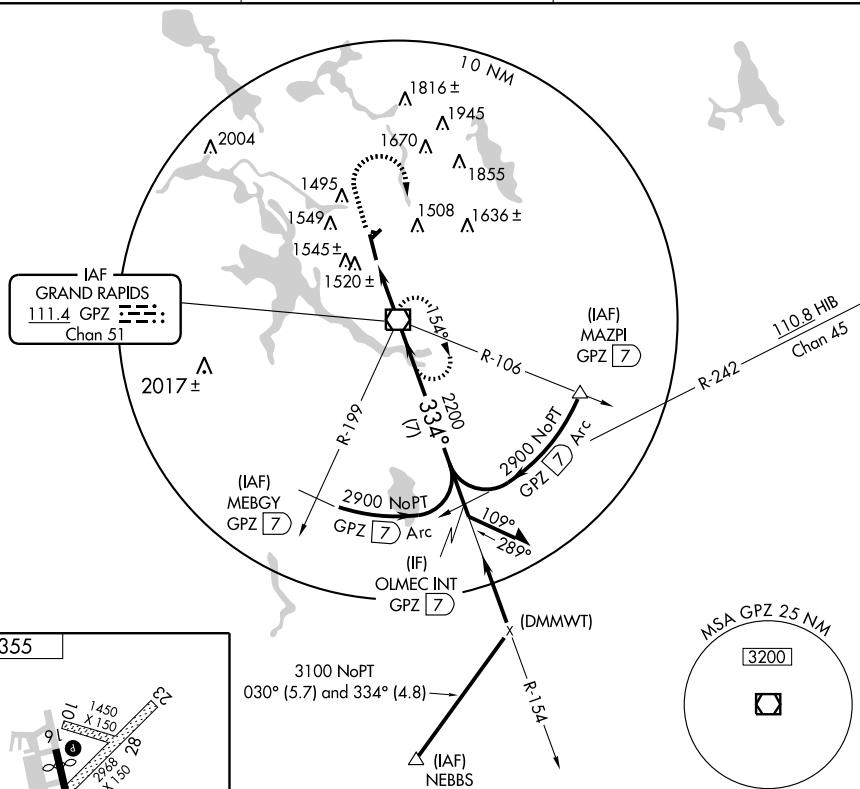
4 NM  
Holding Pattern

CATEGORY	A	B	C	D
LPV DA	1555-1/2	200 (200-1/2)		
INAV/ VNAV DA	1747-3/4	392 (400-3/4)		
INAV MDA	1860-1/2	505 (600-1/2)	1860-1	505 (600-1)
CIRCLING	1900-1	545 (600-1)	1900-1 1/2 545 (600-1 1/2)	1920-2 565 (600-2)

GRAND RAPIDS/  
ITASCA COUNTY

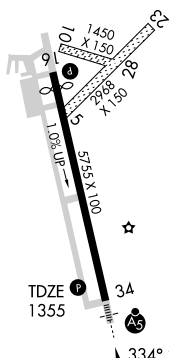


**MISSED APPROACH:** Climb to 3000 then right turn direct GPZ VOR/DME and hold.

UNICOM  
122.8 (CTAF) **L**

NC-1. 22 OCT 2009 to 19 NOV 2009

ELEV 1355



REIL Rwy 16 **L**  
HIRL Rwy 16-3.

FAF to MAP 2.3 NM

Knots	60	90	120	150	180
Min:Sec	2:18	1:32	1:09	0:55	0:46

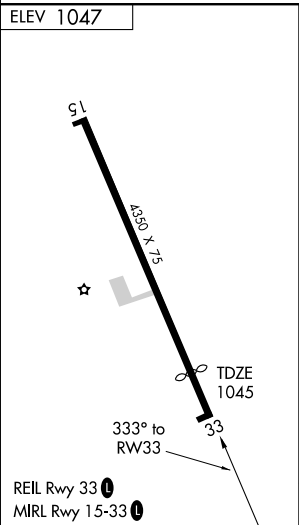
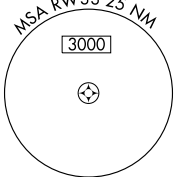
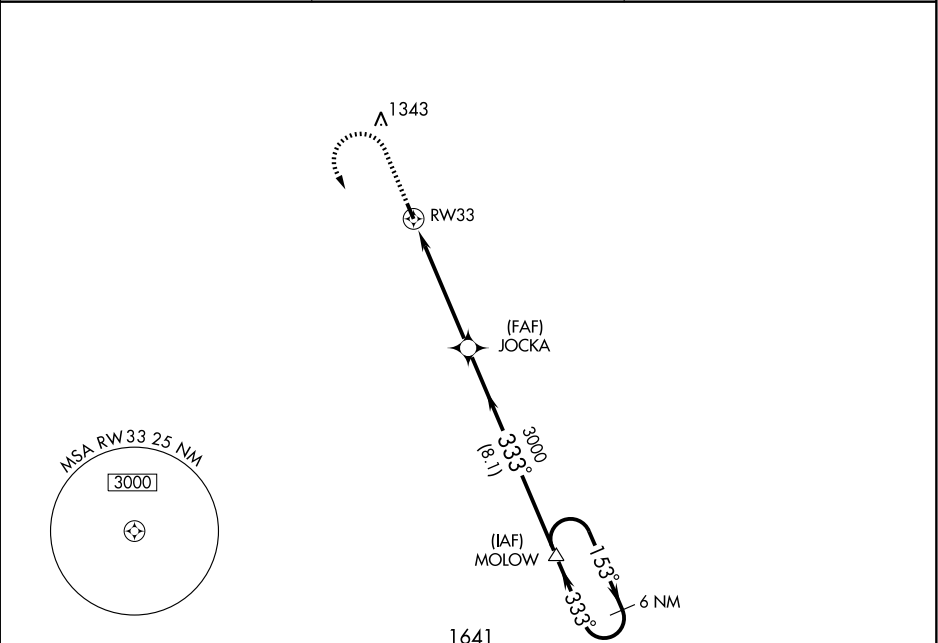
CATEGORY	A	B	C	D
S-34	1800-½ 445 (500-½)		1800-¾ 445 (500-¾)	1800-1 445 (500-1)
CIRCLING	1900-1 545 (600-1)		1900-1½ 545 (600-1½)	1920-2 565 (600-2)

GPS RWY 33

GRANITE FALLS MUNI/LENZEN-ROE MEMORIAL FIELD (GDB)

<div>▲ NA</div>	When local altimeter setting not received, use Montevideo altimeter setting.	MISSED APPROACH: Climb to 3000 then climbing left turn to 3800 direct MOLOW WP and hold.
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AWOS-3 120.1	MINNEAPOLIS CENTER 127.1 290.2	UNICOM 122.8 (CTAF) 0
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	3000	3800	MOLOW △		MOLOW	6 NM Holding Pattern
			JOCKA			
			RW33			
			3000			
			5 NM	8.1 NM		
CATEGORY	A	B	C	D		
S-33	1480-1	435 (500-1)	1480-1¼ 435 (500-1¼)	1480-1½ 435 (500-1½)		
CIRCLING	1520-1	473 (500-1)	1520-1½ 473 (500-1½)	1600-2 553 (600-2)		

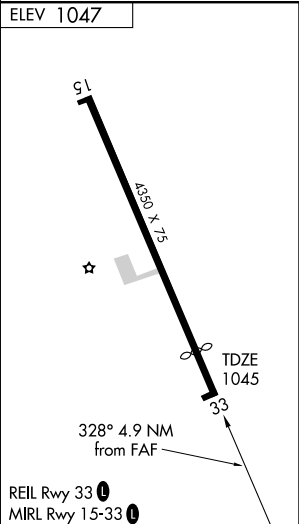
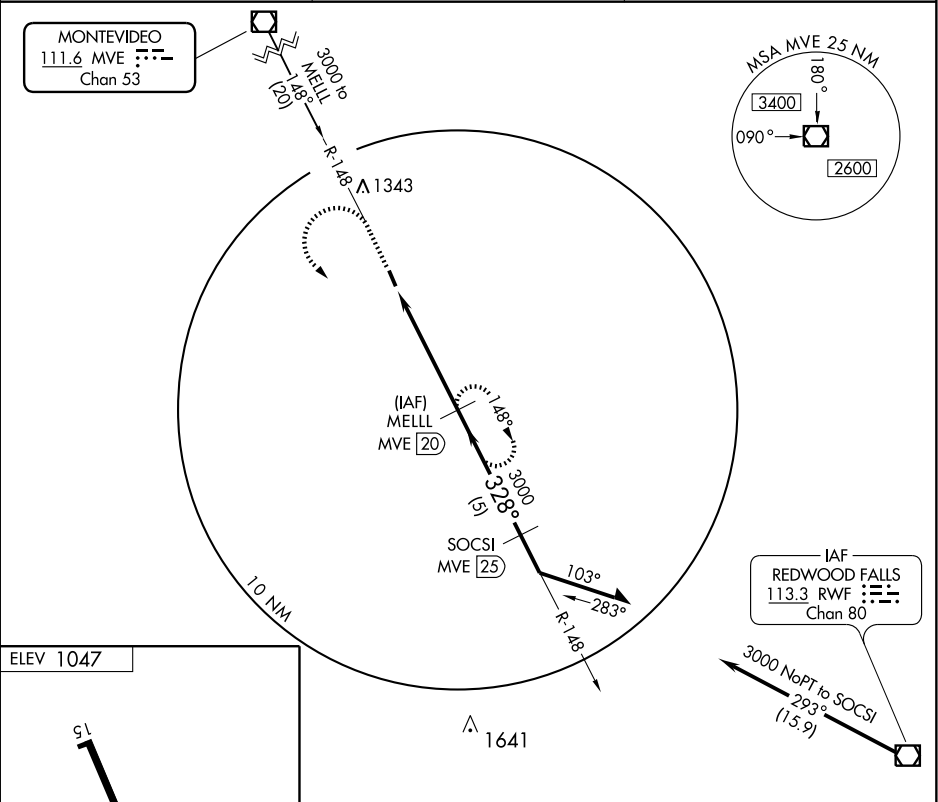
VOR/DME MVE	APP CRS	Rwy Idg	3700
111.6	328°	TDZE	1045
Chan 53		Apt Elev	1047

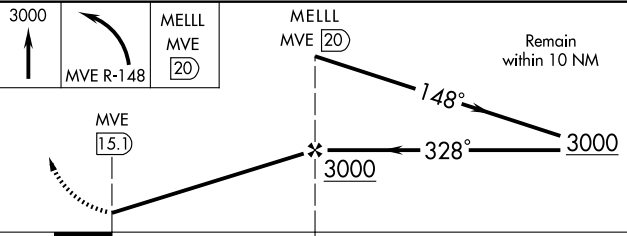
VOR/DME RWY 33

GRANITE FALLS MUNI/LENZEN-ROE MEMORIAL FIELD (GDB)

▲ NA	When local altimeter setting not received, use Montevideo altimeter setting.	MISSED APPROACH: Climb to 3000, then left turn via R-148 to MELL/MVE 20 DME and hold.
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AWOS-3 120.1	MINNEAPOLIS CENTER 127.1 290.2	UNICOM 122.8 (CTAF) 0
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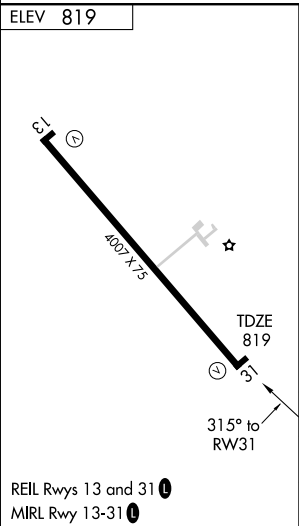
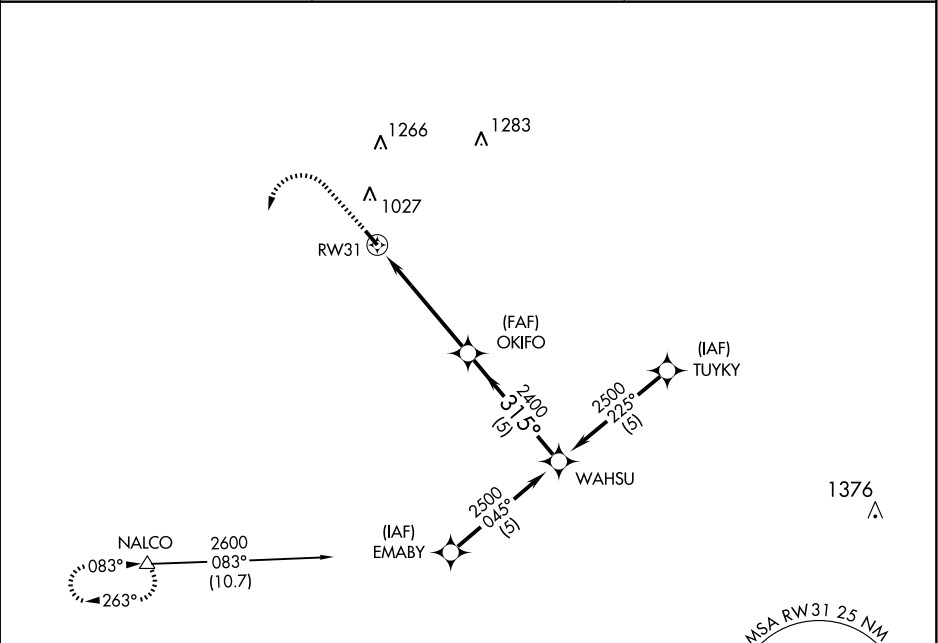
 <p>The diagram illustrates a flight path starting from a thick black line on the left. A dashed line extends vertically upwards from the start point to a point labeled 'MVE 15.1'. From 'MVE 15.1', a solid line extends upwards and to the right to a point marked with an 'X'. A horizontal distance of '4.9 NM' is indicated between the vertical dashed line and the 'X'. From the 'X', a solid line extends upwards and to the right to a point labeled 'MELL MVE 20'. A horizontal dashed line extends to the right from the 'X' to a point labeled '3000'. From this '3000' point, a solid line extends upwards and to the right to a point labeled 'MELL MVE 20'. From this second 'MELL MVE 20' point, a solid line extends upwards and to the right to a point labeled '3000'. A horizontal dashed line extends to the right from the 'X' to a point labeled '3000'. A horizontal dashed line extends to the right from the 'X' to a point labeled '3000'. 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GPS RWY 31  
HALLOCK MUNI (HCO)

APP CRS	Rwy Idg	4007
315°	TDZE	819
	Apt Elev	819

▲ NA	MISSED APPROACH: Climb to 2000 then climbing left turn to 2600 direct NALCO WP and hold.
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AWOS-3 126.475	MINNEAPOLIS CENTER 132.15 269.6	UNICOM 122.8 (CTAF) 0
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	2000	2600	NALCO △	WAHSU
				OKIFO
				2400
				2500
				Procedure Turn NA
				315°
				1.2 NM to RW31
				1.2
				3.8 NM
				5 NM
CATEGORY	A	B	C	D
S-31	1220-1	401 (500-1)	1220-1¼	401 (500-1¼)
CIRCLING	1380-1	561 (600-1)	1380-1½	1380-2
			561 (600-1½)	561 (600-2)

VORTAC HML <b>112.4</b> Chan <b>71</b>	APP CRS <b>306°</b>	Rwy Idg <b>4007</b> TDZE <b>819</b> Apt Elev <b>819</b>
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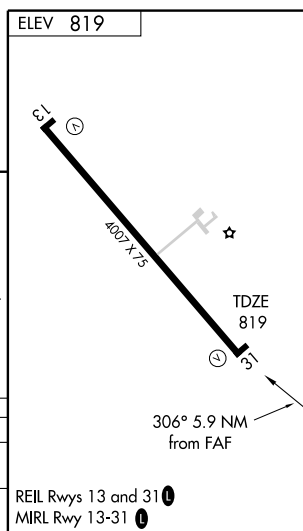
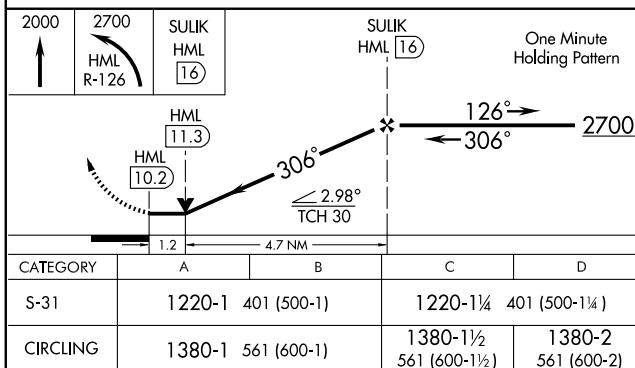
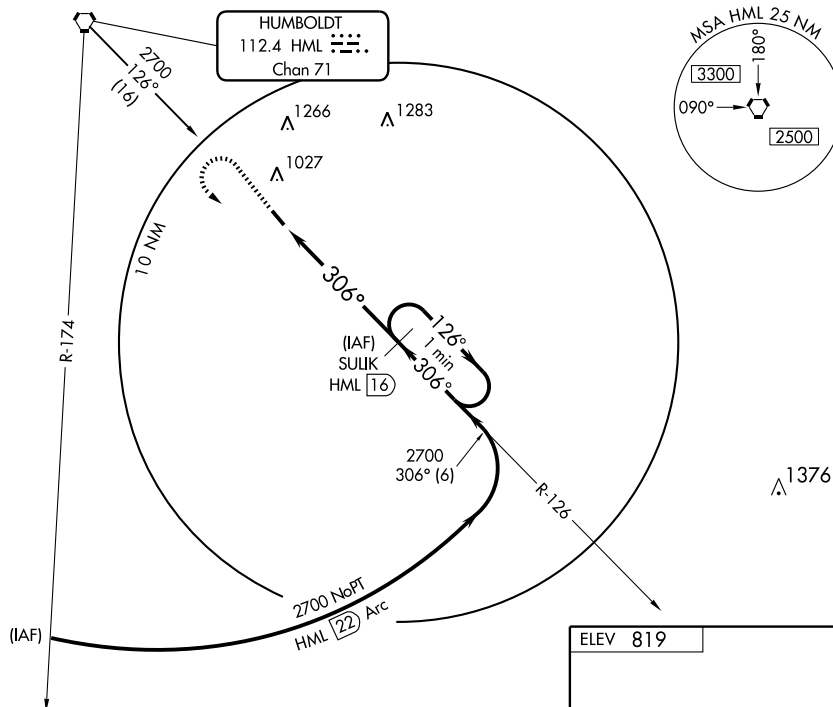
VOR/DME RWY 31  
HALLOCK MUNI (HCO)

**A NA**

**MISSED APPROACH:** Climb to 2000 then climbing left turn to 2700 via HML R-126 to SULIK and hold.

AWOS-3  
126,475

MINNEAPOLIS CENTER  
132.15 269.6

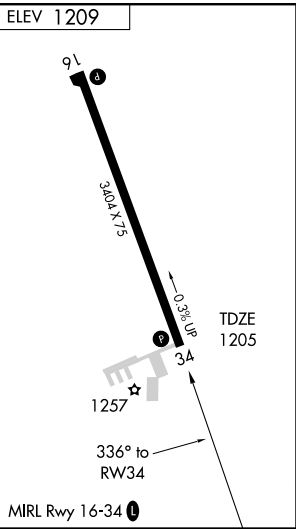
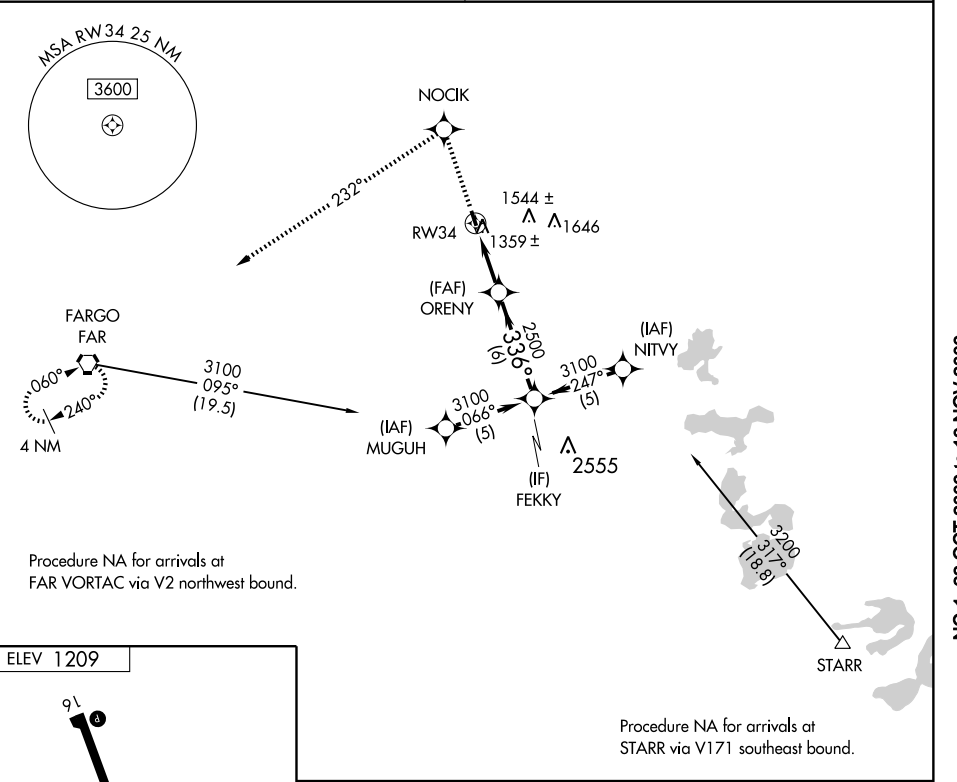
UNICOM  
122.8 (CTAF) **L**




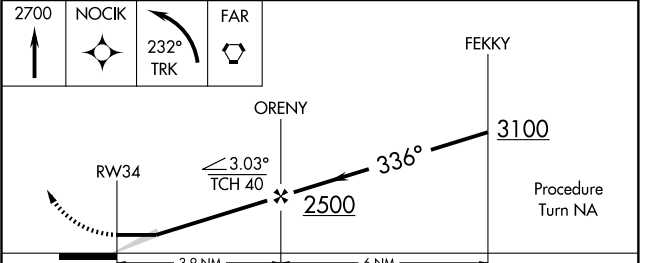
Use Fargo, ND altimeter setting.  
 DME/DME RNP-0.3 NA.

MISSED APPROACH: Climb to 2700 direct NOCIK and left turn via 232° track to FAR VORTAC and hold.

FARGO APP CON ★  
120.4 377.15

UNICOM  
122.8 (CTAF)



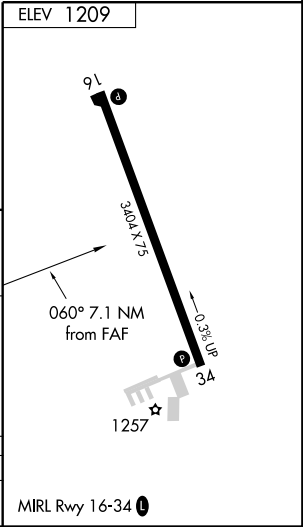
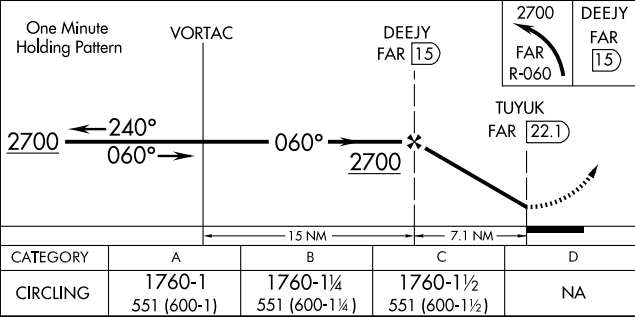
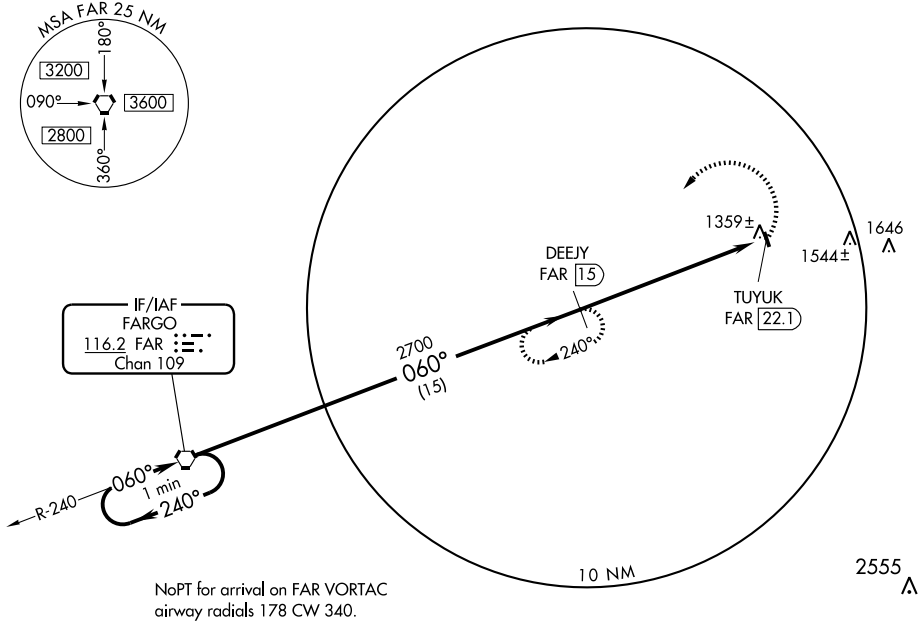
2700 ↑	NOCIK 	232° TRK 	FAR 	
				
CATEGORY	A	B	C	D
LNVA MDA	1700-1	495 (500-1)	1700-1¼ 495 (500-1¼)	NA
CIRCLING	1760-1	551 (600-1)	1760-1½ 551 (600-1½)	NA

NC-1: 22 OCT 2009 to 19 NOV 2009

VORTAC FAR	APP CRS	Rwy Idg	N/A
<b>116.2</b>	<b>060°</b>	TDZE	<b>N/A</b>
Chan <b>109</b>		Apt Elev	<b>1209</b>

VOR/DME-A  
HAWLEY MUNI (Ø4Y)

<div><div>▼</div><div>▲ NA</div></div> <div>Use Fargo, ND altimeter setting.</div>	MISSED APPROACH: Climbing left turn to 2700 via FAR R-060 to DEEJY/15 DME and hold.
FARGO APP CON ★ <b>120.4 377.15</b>	UNICOM <b>122.8</b> (CTAF) <b>1</b>





LOC I-JAE	APP CRS	Rwy Idg	6758
110.5	130°	TDZE	1353
		Apt Elev	1353

ILS or LOC/DME RWY 13

HIBBING/CHISHOLM-HIBBING (HIB)

▼

▲

Autopilot couple approach NA below 2388.

MALSR

MISSED APPROACH: Climb to 3600 direct HIB VOR/DME and hold.

ASOS

126.425

DULUTH APP CON\*

125.45 255.9

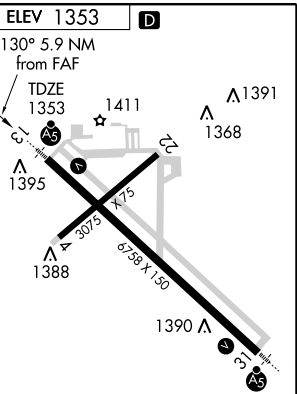
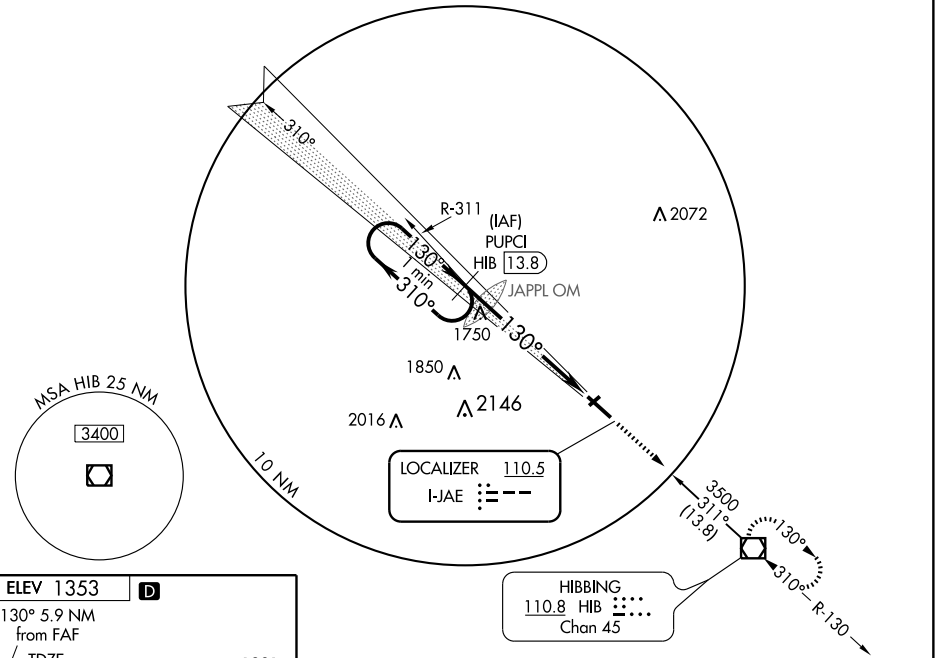
CLNC DEL

127.4

UNICOM

123.0 (CTAF) 0

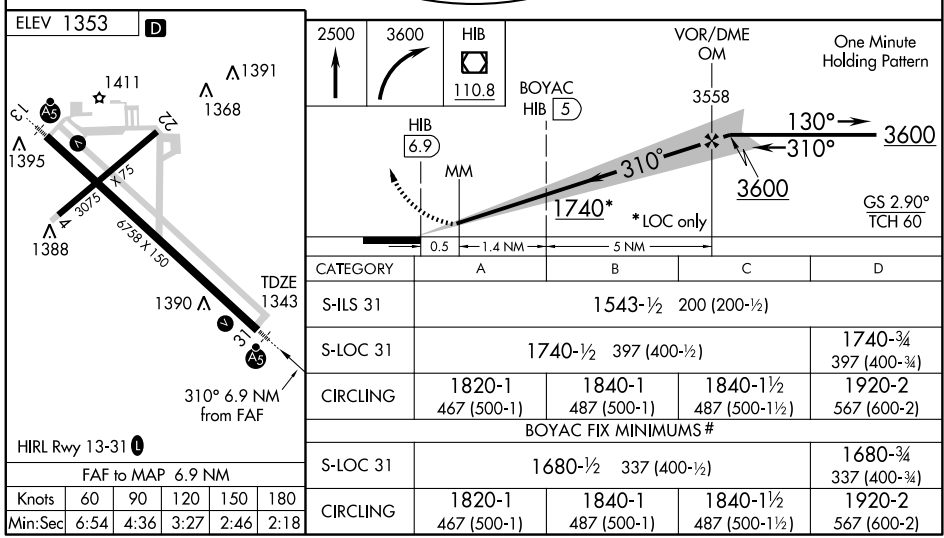
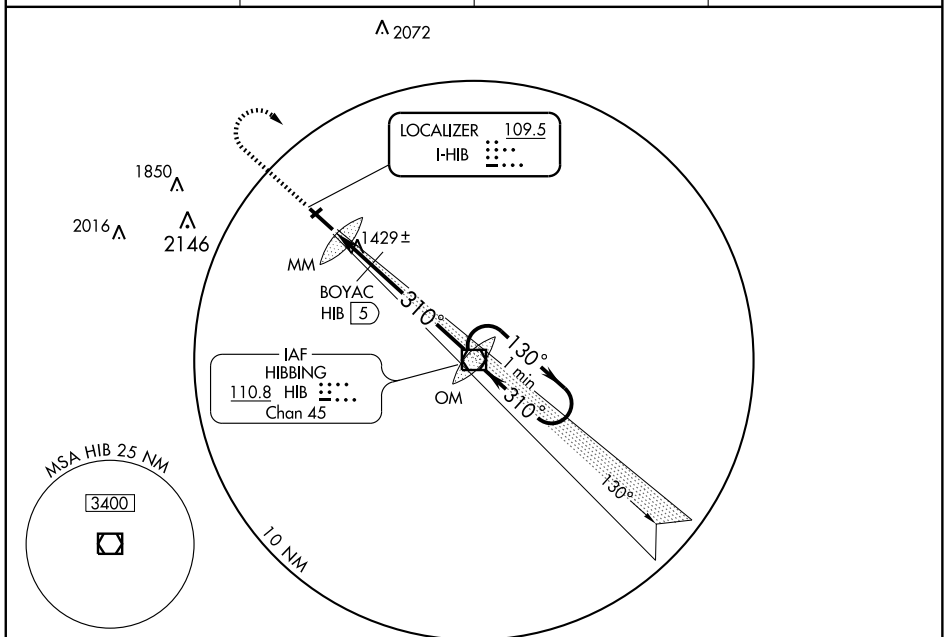
DME REQUIRED



HIRL Rwy 13-31 0

<div>One Minute Holding Pattern</div> <div></div>				
<div>HIBBING</div> <div>110.8 HIB</div> <div>Chan 45</div>				
<div>3600 HIB</div> <div>110.8</div>				
<div>HIB</div> <div>8</div>				
CATEGORY	A	B	C	D
S-ILS 13	1553-½ 200 (200-½)			
S-LOC 13	2060-½ 707 (800-½)		2060-1½ 707 (800-1½)	2060-1¾ 707 (800-1¾)
CIRCLING	2060-1 707 (800-1)		2060-1½ 707 (800-1½)	2060-2 707 (800-2)

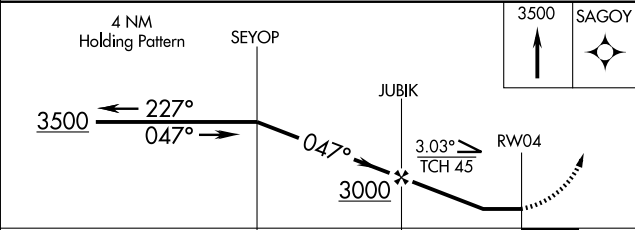
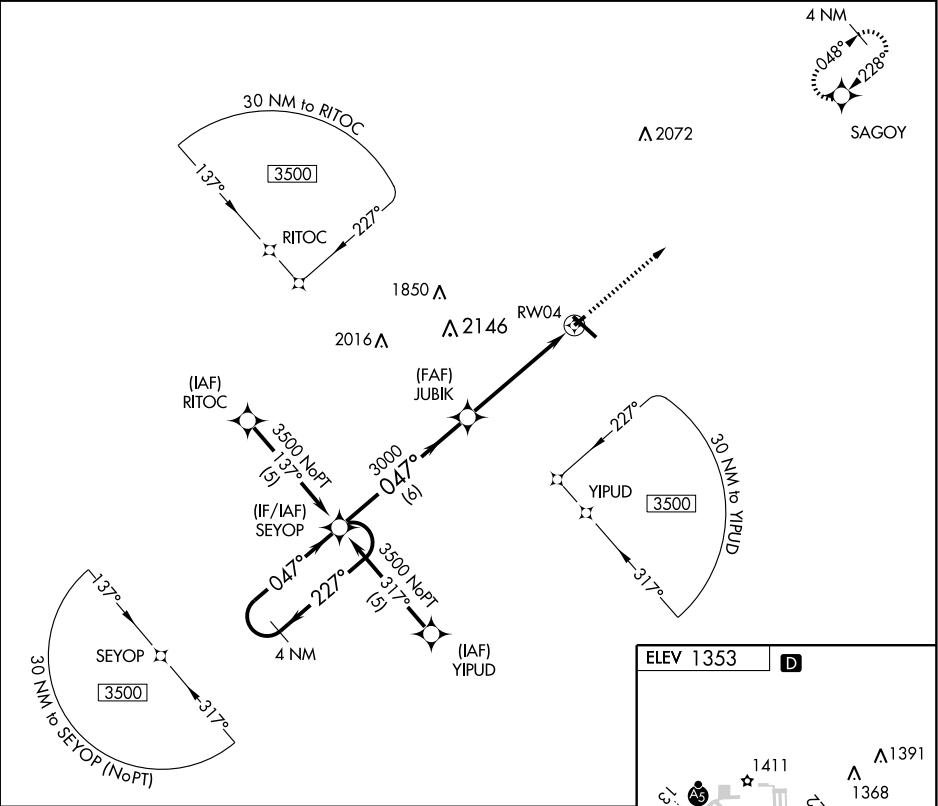
ASOS <b>126.425</b>	DULUTH APP CON* <b>125.45 255.9</b>	CLNC DEL <b>127.4</b>	UNICOM <b>123.0 (CTAF) 0</b>
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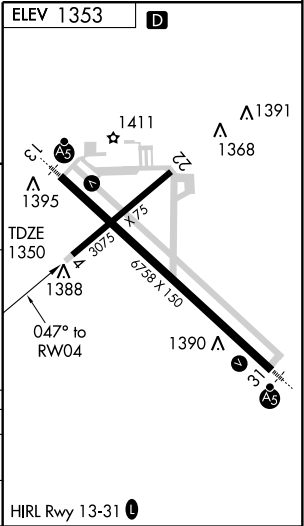
APP CRS <b>047°</b>	Rwy Ldg TDZE Apt Elev	<b>3075</b> <b>1350</b> <b>1353</b>
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RNAV (GPS) RWY 4  
HIBBING/CHISHOLM-HIBBING (HIB)

Procedure not authorized at night. GPS or RNP-0.3 required. DME/DME RNP-0.3 NA.		MISSED APPROACH: Climb to 3500 direct SAGOY WP and hold.	
ASOS <b>126.425</b>	DULUTH APP CON* <b>125.45 255.9</b>	CLNC DEL <b>127.4</b>	UNICOM <b>123.0</b> (CTAF) <b>L</b>



CATEGORY	A	B	C	D
LNAV MDA	1780-1	430 (500-1)	NA	
CIRCLING	1820-1 467 (500-1)	1840-1 487 (500-1)	NA	



APP CRS  
**130°**

Rwy Idg	<b>6758</b>
TDZE	<b>1353</b>
Apt Elev	<b>1353</b>

## RNAV (GPS) RWY 13

HIBBING/CHISHOLM-HIBBING (HIB)



Circling not authorized at night to Rwy 4-22.



GPS or RNP-0.3 required. DME/DME RNP-0.3 NA.

For inoperative MALSR, increase LNAV MDA Cat. A and B to 1 mile.

MALSR



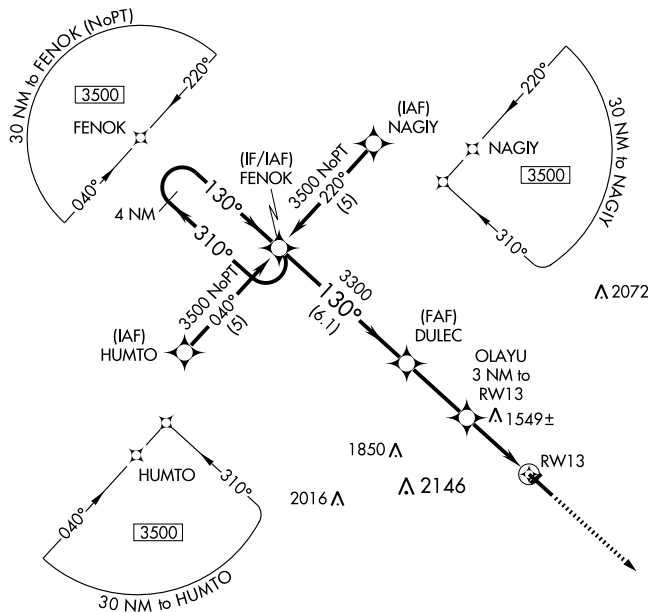
MISSED APPROACH: Climb to 3500  
direct CEKSA WP and hold.

ASOS  
126.425

DULUTH APP CON★  
125.45 255.9

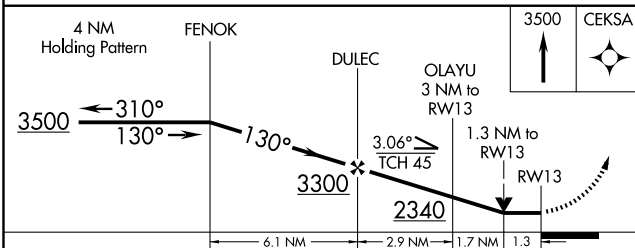
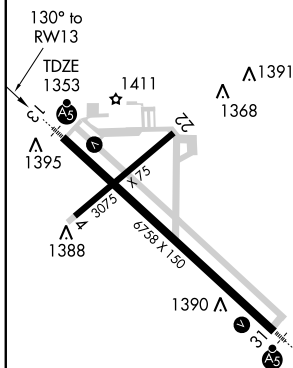
CLNC DEL  
**127.4**

UNICOM  
123.0 (CTAF) **L**



NC-1. 22 OCT 2009 to 19 NOV 2009

ELEV 1353



CATEGORY	A	B	C	D
LNAP MDA	1800- $\frac{3}{4}$ 447 (500- $\frac{3}{4}$ )			1800-1 447 (500-1)
CIRCLING	1820-1 467 (500-1)	1840-1 487 (500-1)	1840-1 $\frac{1}{2}$ 487 (500-1 $\frac{1}{2}$ )	1920-2 567 (600-2)

HIRL Rwy 13-31 **L**

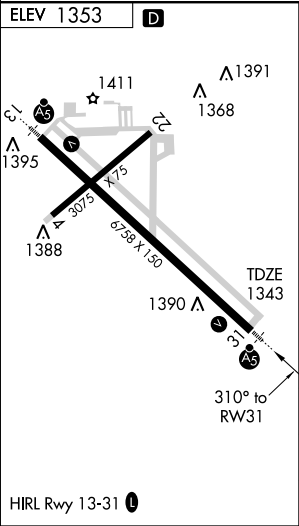
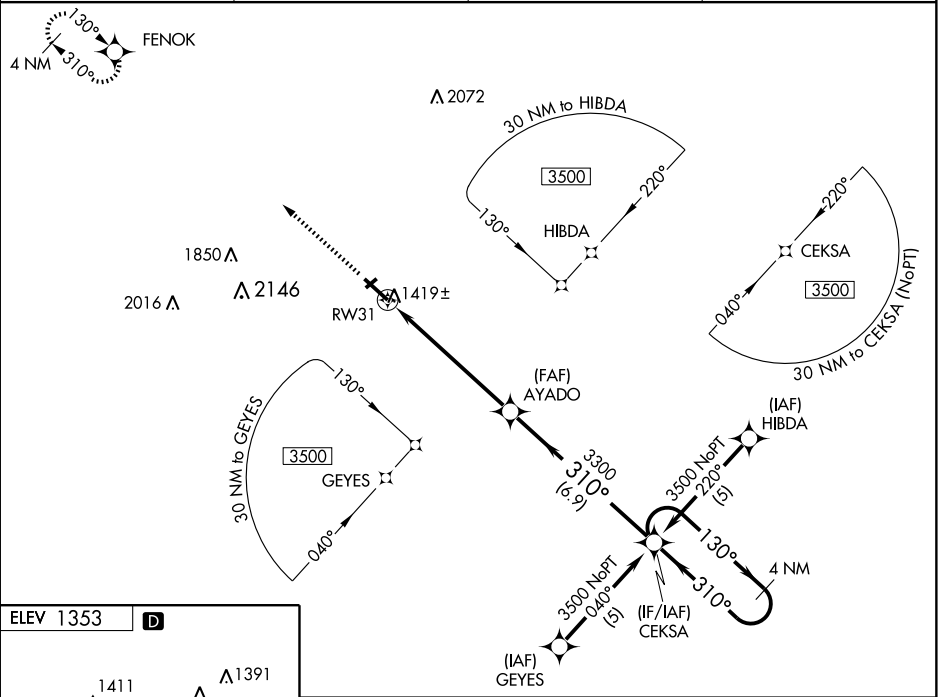


APP CRS <b>310°</b>	Rwy Idg <b>6758</b> TDZE <b>1343</b> Apt Elev <b>1353</b>
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RNAV (GPS) RWY 31  
HIBBING/CHISHOLM-HIBBING (HIB)

<p><b>⚠</b> Circling not authorized at night to Rwy 4-22. <b>⚠</b> Baro-VNAV NA below -17°C (2°F). GPS or RNP-0.3 required. DME/DME RNP-0.3 NA. For inoperative MALSR, increase LNAV Cat. A/B/C visibility to 1 mile. Inoperative table does not apply to LNAV Cat. D.</p>	<p>MALSR <b>A5</b></p>	<p>MISSED APPROACH: Climb to 3500 direct FENOK WP and hold.</p>
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ASOS <b>126.425</b>	DULUTH APP CON* <b>125.45 255.9</b>	CLNC DEL <b>127.4</b>	UNICOM <b>123.0 (CTAF)</b> <b>0</b>
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<div>3500 ↑ FENOK</div>		<div>AYADO</div>		<div>CEKSA</div>		<div>4 NM Holding Pattern</div>	
<div>* LNAV only</div>		<div>* 1 NM to RW31</div>		<div>130° → ← 310°</div>		<div>3500</div>	
<div>1 NM</div>		<div>4.9 NM</div>		<div>6.9 NM</div>		<div>GS 3.00° TCH 55</div>	
CATEGORY		A		B		C	
GLS PA DA		NA					
LNAV/ VNAV		1700-¾ 357 (400-¾)					
LNAV MDA		1700-¾ 357 (400-¾)					1700-1 357 (400-1)
CIRCLING		1820-1¼ 467 (500-1¼)	1840-1¼ 487 (500-1¼)	1840-1½ 487 (500-1½)		1920-2 567 (600-2)	

VOR/DME HIB <b><u>110.8</u></b> Chan <b>45</b>	APP CRS <b>131°</b>	Rwy Idg <b>6758</b> TDZE <b>1353</b> Apt Elev <b>1353</b>
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VOR RWY 13

HIBBING/CHISHOLM-HIBBING (HIB)

**T** For inoperative MALSR increase S-13 Cat A to 1 mile.  
**A** LUBYI FIX MINIMUMS: Increase Cat A and B to 1 mile.

MALSR

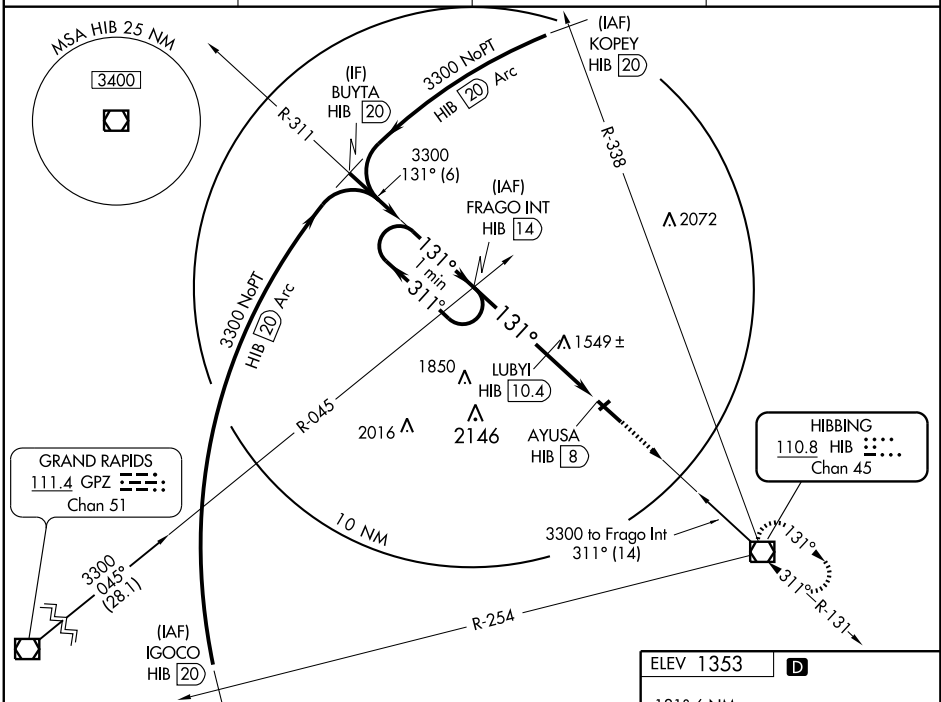
**MISSED APPROACH:** Climb to 3300 direct HIB VOR/DME and hold.

ASOS  
126.425

DULUTH APP CON★  
125.45 255.9

CLNC DEL  
**127.4**

UNICOM  
123.0 (CTAF) 





### One Minute Holding Pattern

FRAGO INT  
HIB 14)

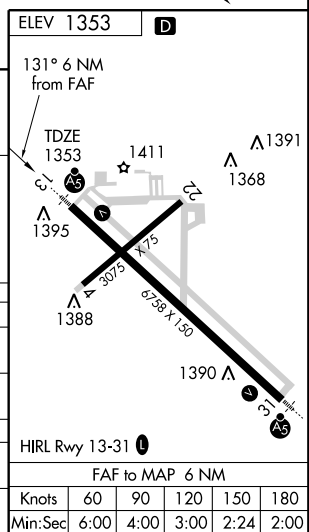
LUBYI  
HIB 10.4

HIB

3300	HIB
	
	<u>110.8</u>

$$\begin{array}{r} 3300 \\ \hline 131^\circ \end{array}$$

2180

AYUSA  
HIB 8

CATEGORY	A	B	C	D
S-13	2180- $\frac{3}{4}$	827 (900- $\frac{3}{4}$ )	2180-2 827 (900-2)	2180-2 $\frac{1}{4}$ 827 (900-2 $\frac{1}{4}$ )
CIRCLING	2180-1 827 (900-1)	2180-1 $\frac{1}{4}$ 827 (900-1 $\frac{1}{4}$ )	2180-2 $\frac{1}{2}$ 827 (900-2 $\frac{1}{2}$ )	2180-2 $\frac{3}{4}$ 827 (900-2 $\frac{3}{4}$ )
LUBYI FIX MINIMUMS				
S-13	1800- $\frac{3}{4}$ 447 (500- $\frac{3}{4}$ )			1800-1 447 (500-1)
CIRCLING	1820-1 467 (500-1)	1840-1 487 (500-1)	1840-1 $\frac{1}{2}$ 487 (500-1 $\frac{1}{2}$ )	1920-2 567 (600-2)

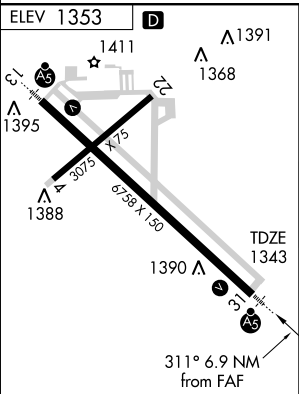
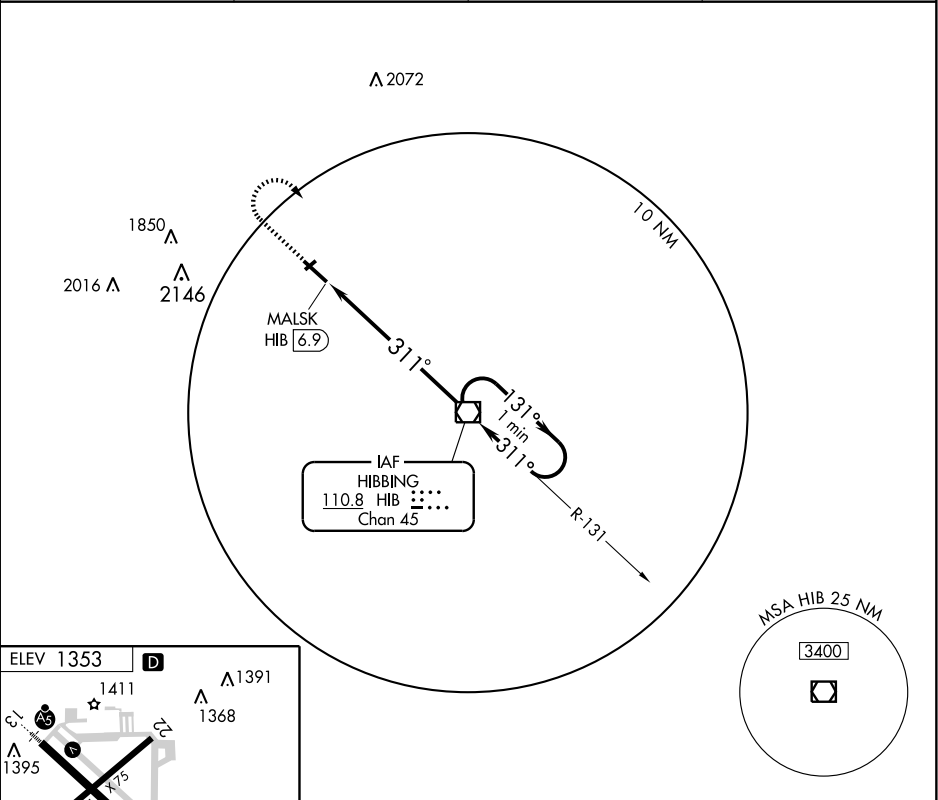
VOR/DME HIB	APP CRS	Rwy Idg	6758
110.8	311°	TDZE	1343
Chan 45		Apt Elev	1353

VOR RWY 31





HIBBING/ CHISHOLM-HIBBING (HIB)

<b>▼</b> For inoperative MALS, increase S-31 Cat. A and B visibility to 1 mile and Cat D visibility to 1½ miles.	MALS AS	MISSED APPROACH: Climb to 2500 then climbing right turn to 3500 direct HIB VOR/DME and hold.
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ASOS 126.425	DULUTH APP CON* 125.45 255.9	CLNC DEL 127.4	UNICOM 123.0 (CTAF) <b>!</b>
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FAF to MAP 6.9 NM					
Knots	60	90	120	150	180
Min:Sec	6:54	4:36	3:27	2:46	2:18

2500	3500	HIB	VOR/DME			
↑	↷		One Minute Holding Pattern			
		110.8				
			HIB 5.7	131° →		← 311° 3500
			311°	≤ 2.89°		TCH 57
			1.2 NM	5.7 NM		
CATEGORY	A	B	C	D		
S-31	1760-¾ 417 (500-¾)				1760-1 417 (500-1)	
CIRCLING	1820-1 467 (500-1)	1840-1 487 (500-1)	1840-1½ 487 (500-1½)	1920-2 567 (600-2)		



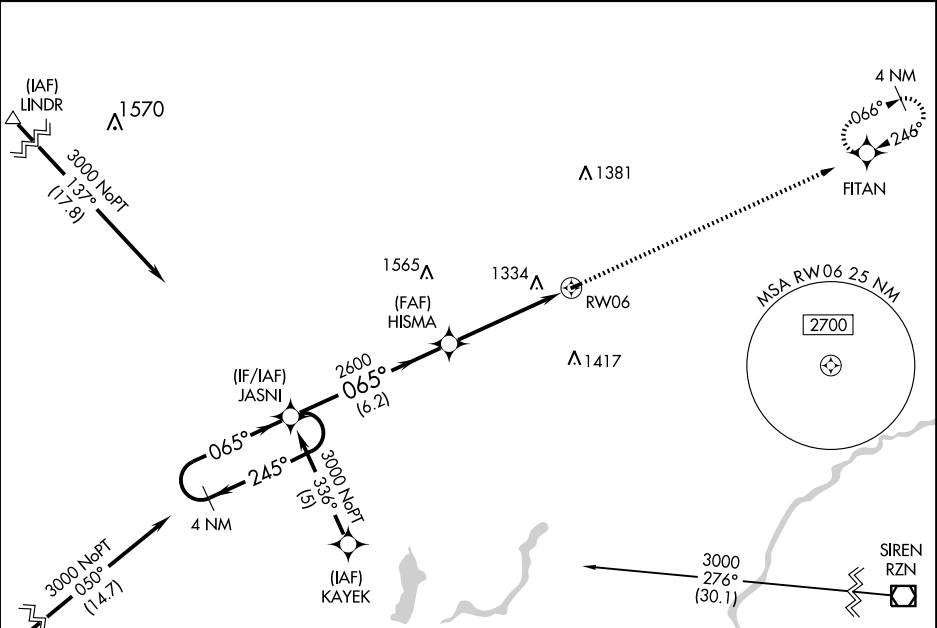
APP CRS	Rwy Idg	2561
065°	TDZE	1021
	Apt Elev	1021

# RNAV (GPS) RWY 6

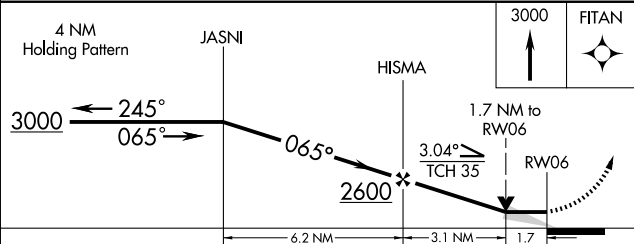
HINCKLEY/ FIELD OF DREAMS (Ø4W)

<div><div>▼</div><div>NA</div></div> <div>DME/DME RNP-0.3 NA. VDP NA when using Mora altimeter setting. When local altimeter setting not received, use Mora altimeter setting and increase all MDAs 60 feet.</div>	MISSED APPROACH: Climb to 3000 direct FITAN and hold.
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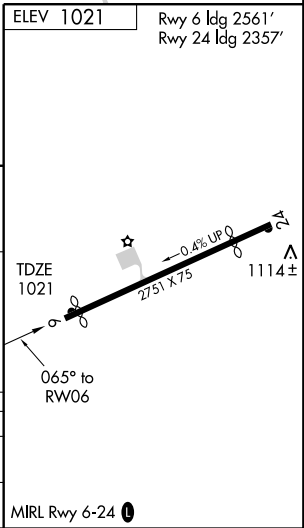
MINNEAPOLIS CENTER 121.05 397.9	CTAF 122.9 0
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Procedure NA for arrivals at RZN VOR/DME via V505 and V13 northeast bound.



CATEGORY	A	B	C	D
LNAV MDA	1600-1	579 (600-1)	NA	
CIRCLING	1640-1	619 (700-1)	NA	



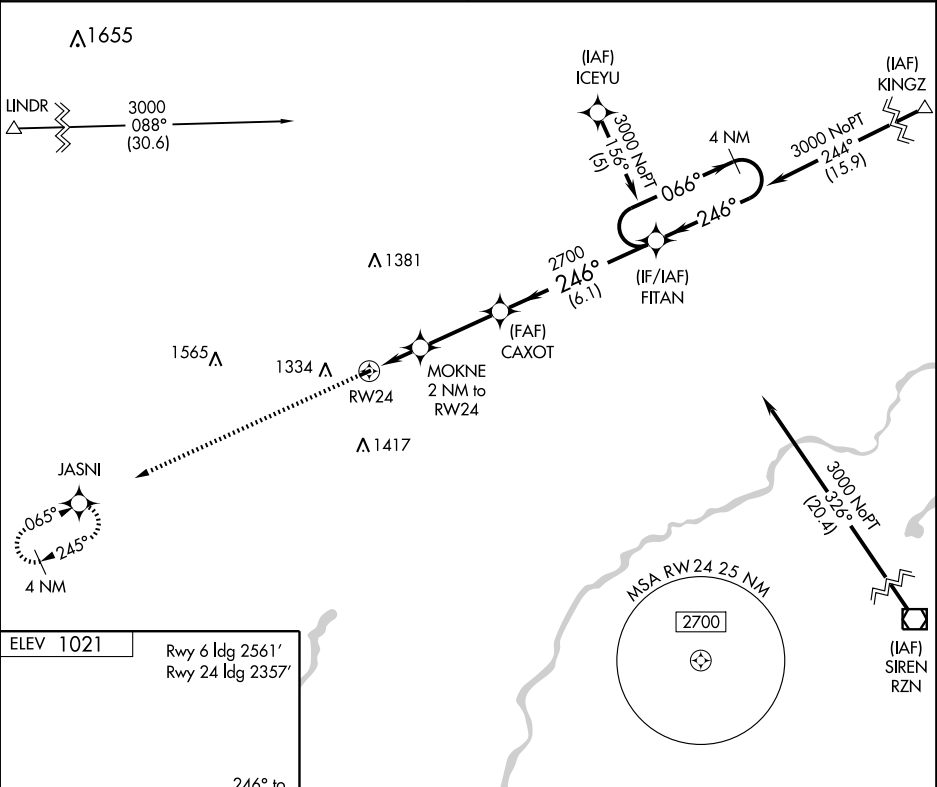
APP CRS	Rwy ldg	2357
246°	TDZE	1021
	Apt Elev	1021

RNAV (GPS) RWY 24  
HINCKLEY/ FIELD OF DREAMS (Ø4W)

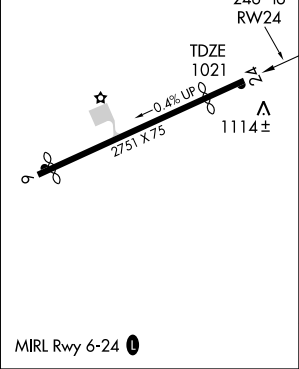
**NA** DME/DME RNP-0.3 NA.  
When local altimeter setting not received, use Mora altimeter setting and increase all MDAs 60 feet.  
VDP NA when using Mora altimeter setting.

MISSED APPROACH: Climb to 3000 direct JASNI and hold.

MINNEAPOLIS CENTER 121.05 397.9	CTAF 122.9
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ELEV 1021	Rwy 6 ldg 2561'
	Rwy 24 ldg 2357'

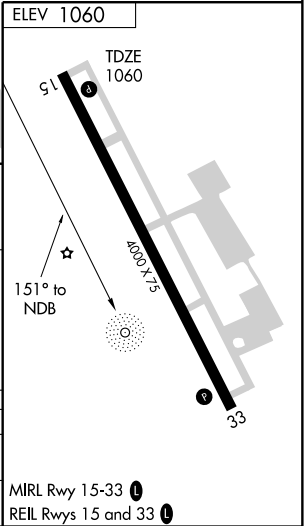
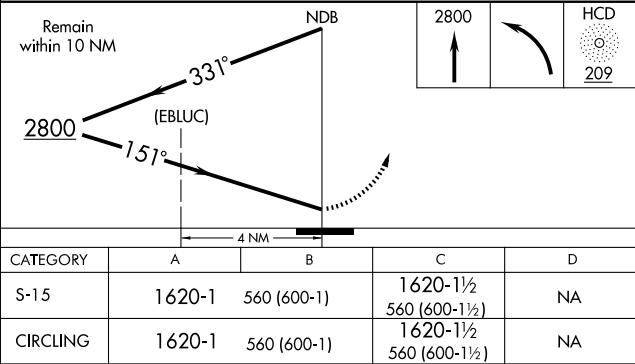
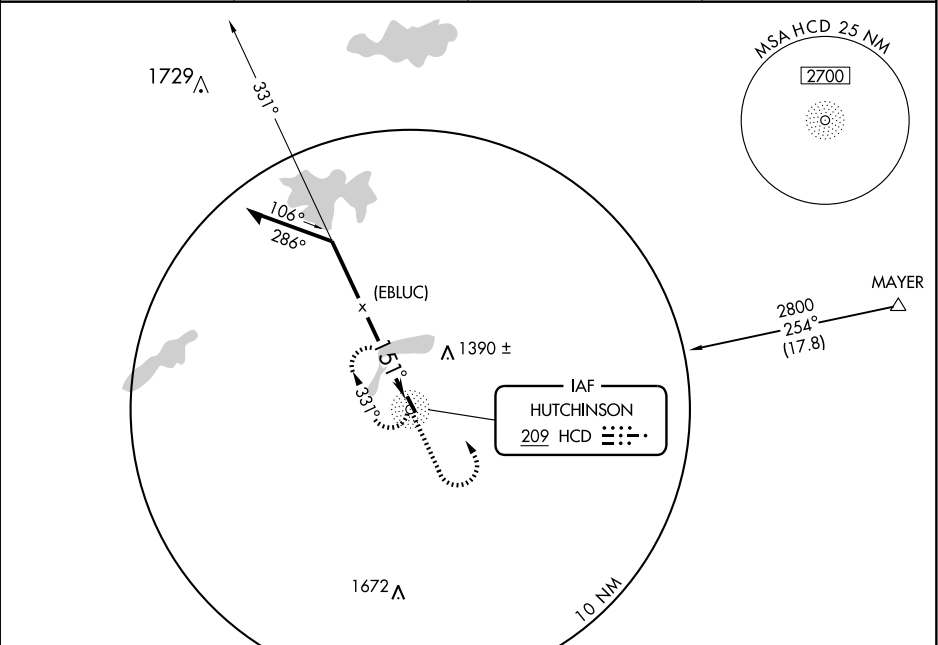


3000	JASNI	MOKNE 2 NM to RW24	CAXOT	FITAN	4 NM Holding Pattern
		1.3 NM to RW24	≤ 3.04° TCH 35	2700	3000
		1.3	0.7	3.1 NM	6.1 NM
CATEGORY	A	B	C	D	
LNAV MDA	1380-1	359 (400-1)	NA	NA	
CIRCLING	1640-1	619 (700-1)	NA	NA	

NDB HCD <b>209</b>	APP CRS <b>151°</b>	Rwy Idg TDZE Apt Elev	<b>4000</b> <b>1060</b> <b>1060</b>
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NDB or GPS RWY 15  
HUTCHINSON MUNI-BUTLER FIELD (HCD)

NA		MISSED APPROACH: Climb to 2800, then left turn direct HCD NDB and hold.	
AWOS-3 <b>118.525</b>	MINNEAPOLIS CENTER <b>127.1 290.2</b>	GCO <b>121.725</b>	UNICOM <b>122.8</b> (CTAF) <b>1</b>



VORTAC DWN <b>109.0</b> Chan <b>27</b>	APP CRS <b>340°</b>	Rwy Idg <b>4000</b> TDZE <b>1060</b> Apt Elev <b>1060</b>
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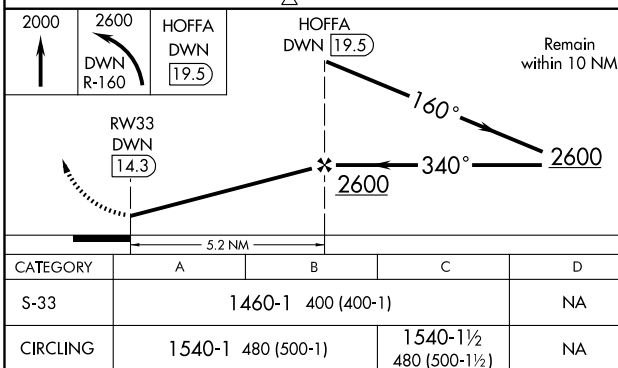
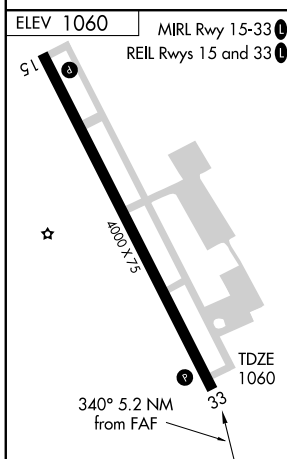
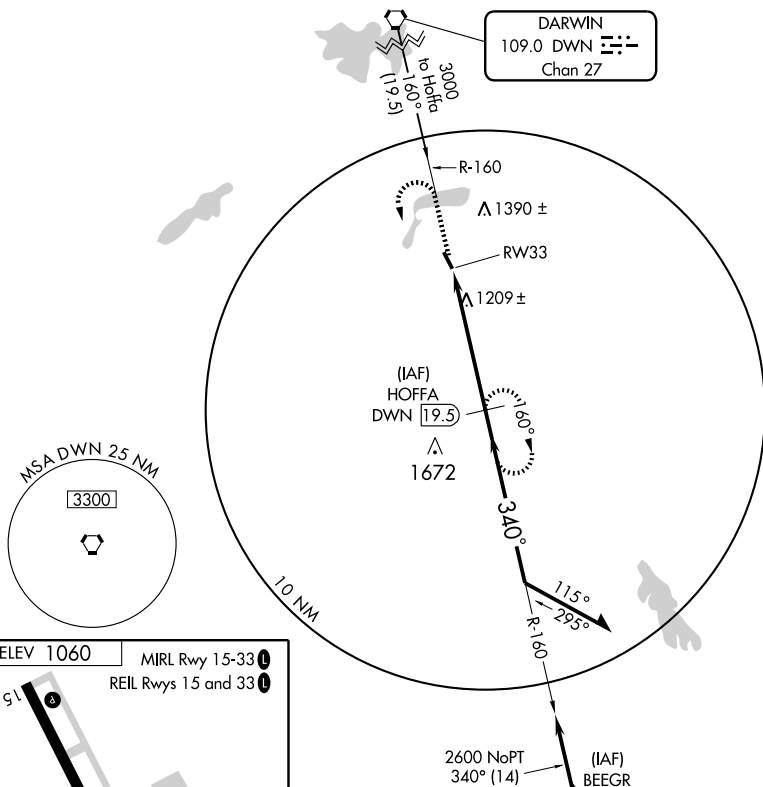
VOR/DME or GPS RWY 33  
HUTCHINSON MUNI-BUTLER FIELD (HCD)

**MISSED APPROACH:** Climb to 2000 then climbing left turn to 2600 via DWN R-160 to HOFFA/19.5 DME and hold.

AWOS-3  
118.525

MINNEAPOLIS CENTER  
127.1 290.2

GCO  
121,725

UNICOM  
122.8 (CTAF) **L**

LOC I-INL	APP CRS	Rwy Idg	<b>7400</b>
<b><u>111.95</u></b>	<b>313°</b>	TDZE	<b>1166</b>
		Apt Elev	<b>1185</b>

## COPTER ILS or LOC RWY 31

INTERNATIONAL FALLS/FALLS INTL (INL)



Inoperative table does not apply.  
When local altimeter setting not received, use Baudette altimeter setting and increase DA 127 feet and ILS visibility  $\frac{3}{8}$  mile, increase all MDAs 140 feet.

MALSR



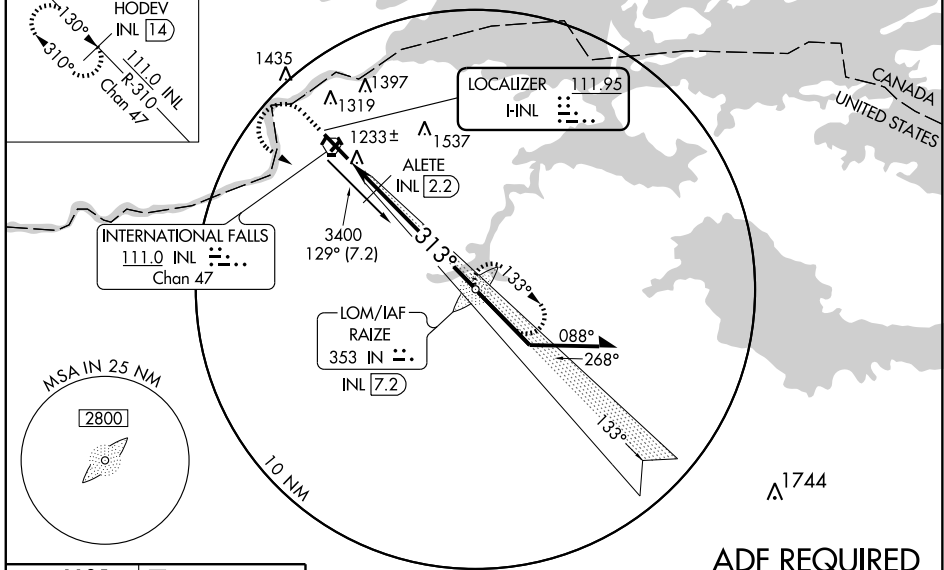
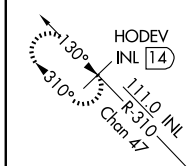
**MISSED APPROACH:** Climb to 2500 then climbing left turn to 3400 direct RAIZE LOM and hold.

ASOS  
120.0

MINNEAPOLIS CENTER  
120.9 377.1

UNICOM  
122.8 (CTAF) **L**

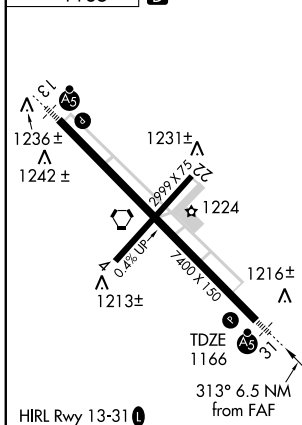
ALTERNATE MISSED APCH FIX	
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## ADF REQUIRED

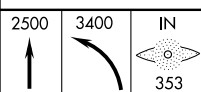
ELEV 1185

**D**

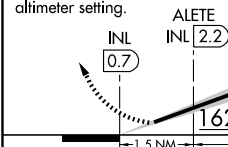
HIRL Rwy 13-31 **L**

FAF to MAP 6.5 NM

Knots	45	60	75	90	105
Min:Sec	8:40	6:30	5:12	4:20	3:43



\*1760 when using altimeter setting.



RAIZE LOM

7.2

Remain  
within 5 NM

$$\leq 3400$$
$$\frac{\text{GS } 3.00^\circ}{\text{TCH } 45}$$

CATEGORY	COPTER	B	C	D
H-ILS 31	1366- $\frac{3}{8}$ 200 (200- $\frac{3}{8}$ )		NA	
H-LOC 31	1620- $\frac{1}{2}$ 454 (500- $\frac{1}{2}$ )		NA	
CIRCLING		NA		
ALETE FIX MINIMUMS				
H-LOC 31	1520- $\frac{1}{2}$ 354 (400- $\frac{1}{2}$ )		NA	
CIRCLING		NA		

LOC I-ABK	APP CRS	Rwy Idg	<b>7400</b>
<b>109.1</b>	<b>133°</b>	TDZE	<b>1184</b>
		Apt Elev	<b>1185</b>

# ILS or LOC/DME RWY 13

INTERNATIONAL FALLS/FALLS INTL (INL)

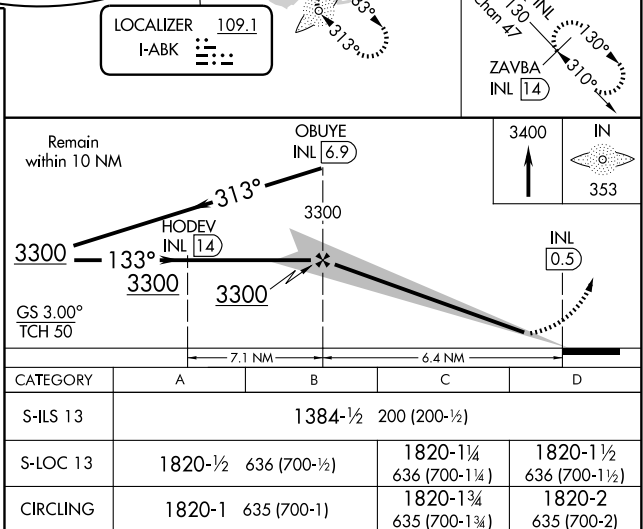
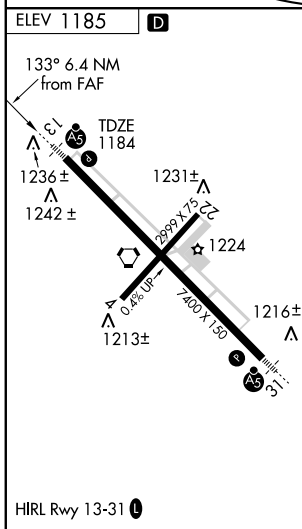
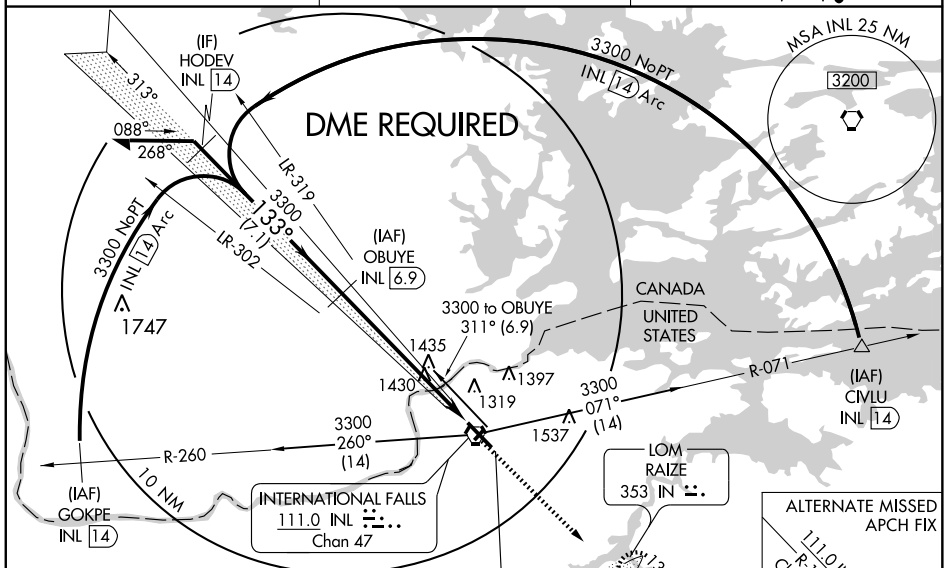
**⚠** When local altimeter setting not received, use Baudette altimeter setting and increase DAs 127 feet and S-ILS 13 visibility ¼ mile all Cats, increase all MDAs 140 feet and S-LOC 13 Cat B visibility ¼ mile, Cat C and D ½ mile, increase Circling Cat B visibility ¼ mile, Cat C and D ½ mile.  
For inoperative MALSR when using Baudette altimeter setting, increase S-ILS 13 visibility ½ mile all Cats.  
ADF required. Circling to Rwy 4-22 NA at night.  
DME from INL VORTAC. Simultaneous reception of I-ABK and INL DME required.

MALSR



**MISSED APPROACH:** Climb to 3400 direct IN LOM and hold.

ASOS <b>120.0</b>	MINNEAPOLIS CENTER <b>120.9 377.1</b>	UNICOM <b>122.8 (CTAF)</b>
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NDB RWY 31

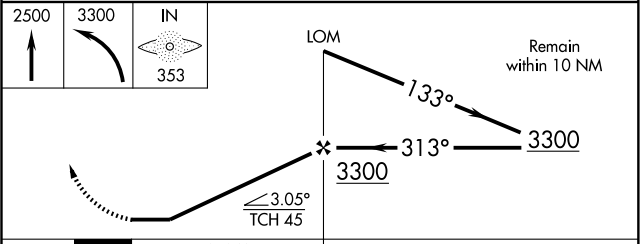
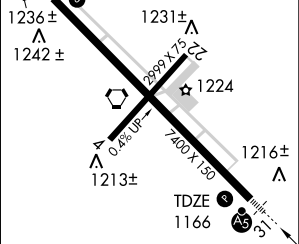
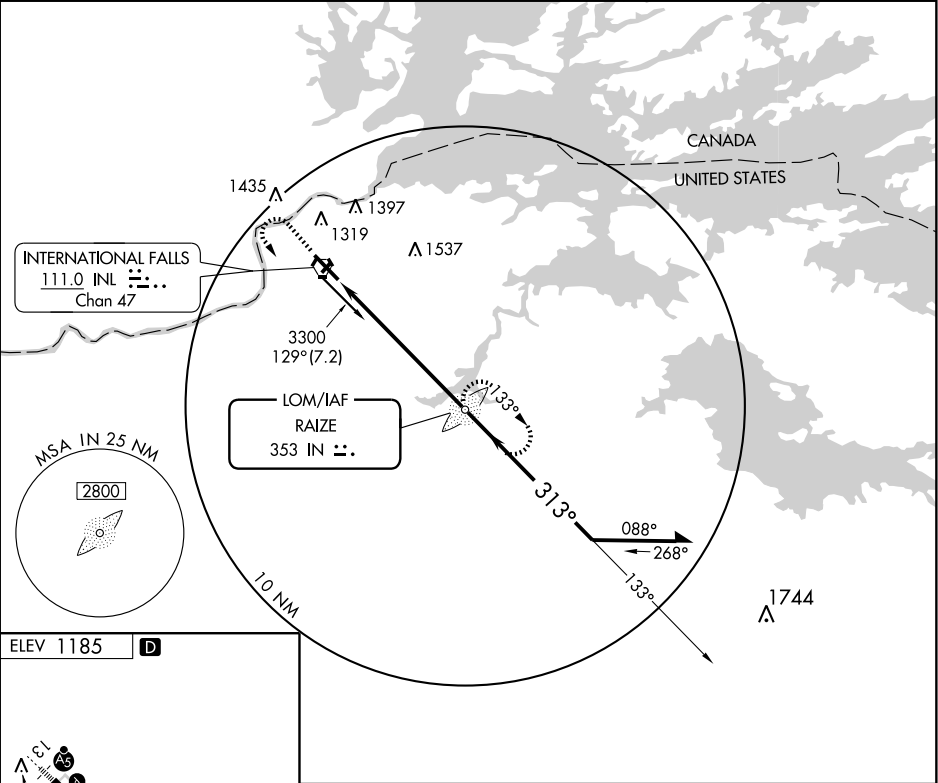
INTERNATIONAL FALLS/FALLS INTL (INL)

LOM IN	APP CRS	Rwy Idg	7400
353	313°	TDZE	1166
		Apt Elev	1185

**NA** Circling to Rwy 4-22 NA at night.  
When local altimeter setting not received, use Baudette  
altimeter setting and increase all MDAs 140 feet, and S-31  
Cats C/D visibility ½ mile, Circling Cat C ½ mile, Cat D ½ mile.

**MALSR**  
**A5** MISSED APPROACH: Climb to 2500 then  
climbing left turn to 3300 direct IN LOM and  
hold.

ASOS 120.0	MINNEAPOLIS CENTER 120.9 377.1	UNICOM 122.8 (CTAF) <b>0</b>
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FAF to MAP 6.5 NM						CATEGORY			
						A		B	
						C		D	
						S-31		CIRCLING	
						1700-¾ 534 (600-¾)		1700-1 534 (600-1)	
						1700-1 515 (600-1)		1700-1½ 534 (600-1½)	
						1700-1 515 (600-1)		1780-2 595 (600-2)	


Knots	60	90	120	150	180
Min:Sec	6:30	4:20	3:15	2:36	2:10



WAAS CH <b>53706</b> <b>W13A</b>	APP CRS <b>133°</b>	Rwy Idg TDZE Apt Elev	<b>7400</b> <b>1184</b> <b>1185</b>
INL			

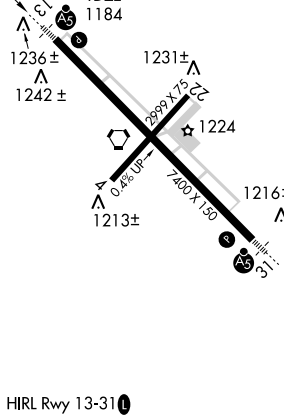
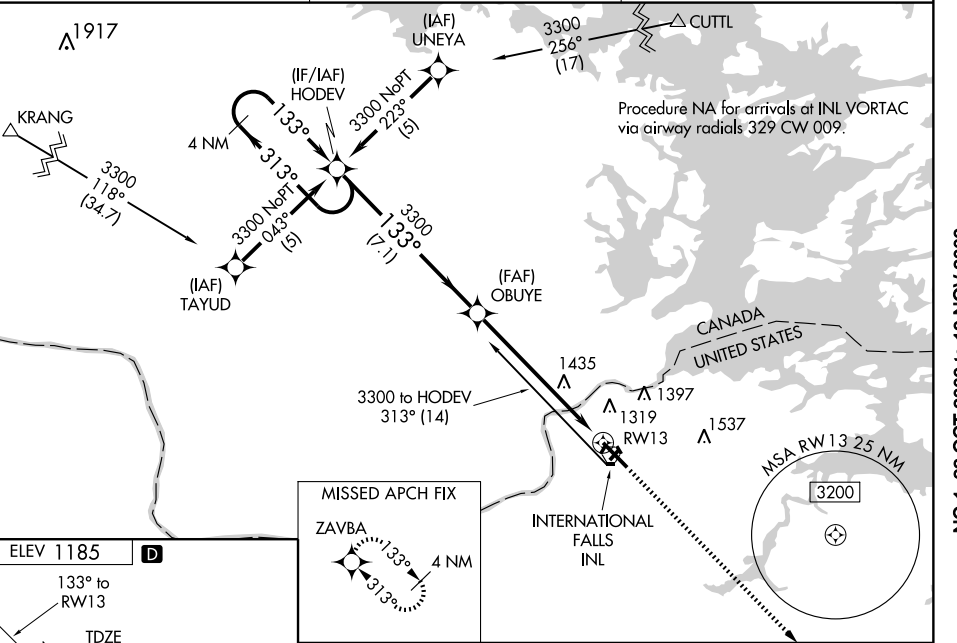
**W** When local altimeter setting not received, use Baudette altimeter setting and increase all DAs 127 feet, increase LPV visibility ¼ mile all Cats, and LNAV/VNAV visibility ¾ mile all Cats, increase all MDAs 140 feet, increase LNAV Cat C and D visibility ½ mile, Circling Cat C visibility ½ mile and Cat D visibility ¼ mile. For inoperative MALS when using Baudette altimeter setting, increase LPV visibility ½ mile all Cats, inoperative table does not apply to LNAV/VNAV. VDP NA when using Baudette altimeter setting. Baro-VNAV NA when using Baudette altimeter setting. Circling to Rwy 4-22 NA at night. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 47°C (116°F). DME/DME RNP-0.3 NA.

**MALS**



**MISSED APPROACH:**  
Climb to 3400 direct ZAVBA and hold.

ASOS <b>120.0</b>	MINNEAPOLIS CENTER <b>120.9 377.1</b>	UNICOM <b>122.8 (CTAF)</b>
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4 NM Holding Pattern		HODEV	OBUE	3400	ZAVBA
3300		313°	133°	133°	
GS 3.00°					
TCH 50					
		7.1 NM	4.8 NM	1.6	
CATEGORY	A	B	C	D	
LPV DA	1434-½		250 (300-½)		
LNAV/VNAV DA	1669-1¼		485 (500-1¼)		
LNAV MDA	1760-½	576 (600-½)	1760-1 576 (600-1)	1760-1¼ 576 (600-1¼)	
CIRCLING	1760-1	575 (600-1)	1760-½ 575 (600-½)	1780-2 595 (600-2)	

NC-1: 22 OCT 2009 to 19 NOV 2009

WAAS CH <b>78406</b> <b>W31A</b>	APP CRS <b>313°</b>	Rwy Idg TDZE Apt Elev	<b>7400</b> <b>1166</b> <b>1185</b>
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When local altimeter setting not received, use Baudette altimeter setting and increase all DAs 127 feet, and LPV and LNAV/VNAV visibility ½ mile all Cats, increase all MDAs 140 feet and LNAV Cat C visibility ¼ mile and Circling Cat C and D visibility ¼ mile.

For inoperative MALSRR when using Baudette altimeter setting, increase LPV visibility ½ mile all Cats. For inoperative MALSRR, increase LPV visibility ½ mile all Cats, inoperative table does not apply to LNAV Cat D. VDP NA when using Baudette altimeter setting. Baro-VNAV NA when using Baudette altimeter setting.

Circling to Rwy 4-22 NA at night. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 47°C (116°F). DME/DME RNP-0.3 NA.

MALSRR

MISSED APPROACH:

Climb to 3300 direct HODEV and hold.

ASOS <b>120.0</b>	MINNEAPOLIS CENTER <b>120.9 377.1</b>	UNICOM <b>122.8 (CTAF)</b>
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	<div>3300</div> <div>HODEV</div>	<div>BIPSE</div> <div>3.1 NM to RW31</div>	<div>HOLIV</div>	<div>ZAVBA</div> <div>4 NM Holding Pattern</div>	
	<div>*LNAV only</div> <div>0.9 NM to RW31</div>	<div>2200*</div>	<div>313°</div> <div>3400</div>	<div>133°</div> <div>3400</div>	<div>GS 3.00°</div> <div>TCH 45</div>
CATEGORY	A	B	C	D	
LPV DA		1462-½	296 (300-½)		
LNAV/VNAV DA		1500-¾	334 (400-¾)		
LNAV MDA		1500-½	334 (400-½)		1500-1 334 (400-1)
CIRCLING	1620-1 435 (500-1)	1680-1 495 (500-1)	1680-1½ 495 (500-1½)		1780-2 595 (600-2)

NC-1: 22 OCT 2009 to 19 NOV 2009

VORTAC INL	APP CRS	Rwy Idg	7400
111.0	305°	TDZE	1166
Chan 47		Apt Elev	1185

⚠

⚠

Circling to Rwy 4-22 NA at night.  
When local altimeter setting not received, use Baudette altimeter setting and increase all MDAs 140 feet, increase S-31 Cat C and D visibility ¼ mile, and Circling Cat C and D visibility ¼ mile.

MALSR

AS

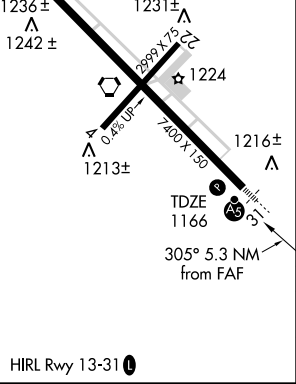
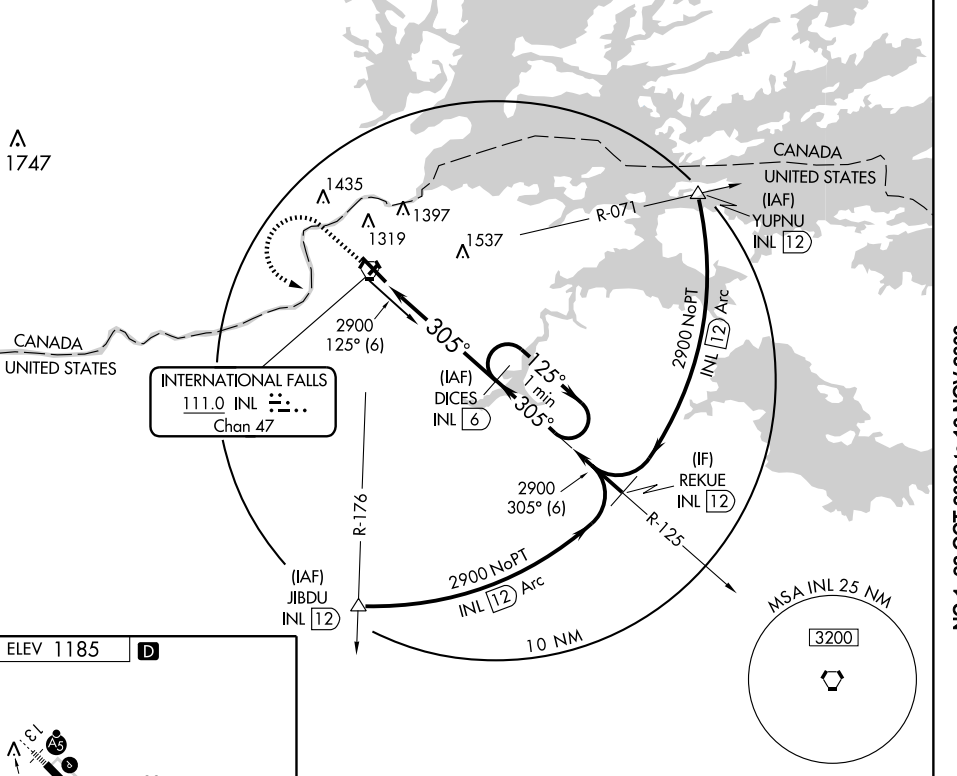
⋮

⋮

⋮

MISSED APPROACH: Climb to 2000 then climbing left turn to 2900 via INL VORTAC R-125 to DICES/6 DME and hold.

ASOS	MINNEAPOLIS CENTER	UNICOM
120.0	120.9 377.1	122.8 (CTAF) 0



2000

2900

DICES INL 6

One Minute Holding Pattern

125°

305°

2900

VORTAC INL 0.7

INL 2

DICES INL 6

305°

3.02°

TCH 45

1.3

4 NM

CATEGORY	A	B	C	D
S-31	1620-½	454 (500-½)	1620-¾ 454 (500-¾)	1620-1 454 (500-1)
CIRCLING	1620-1 435 (500-1)	1680-1 495 (500-1)	1680-1½ 495 (500-1½)	1780-2 595 (600-2)

NC-1, 22 OCT 2009 to 19 NOV 2009

VORTAC INL	APP CRS	Rwy Idg	7400
111.0	134°	TDZE	1184
Chan 47		Apt Elev	1185

**⚠** Circling to Rwy 4-22 NA at night.

**⚠** VDP NA when using Baudette altimeter setting.

When local altimeter setting not received, use Baudette altimeter setting and increase all MDAs 140 feet, and S-13 Cats A/B visibility ¼ mile, Cats C/D visibility ½ mile. Increase Circling Cat B visibility ¼ mile, Cat C and D ½ mile. For inoperative MALSR when using Baudette altimeter setting, increase S-13 Cat A visibility ¼ mile.

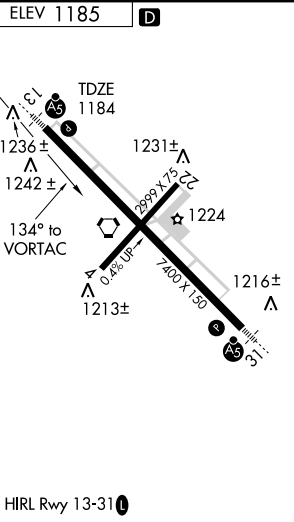
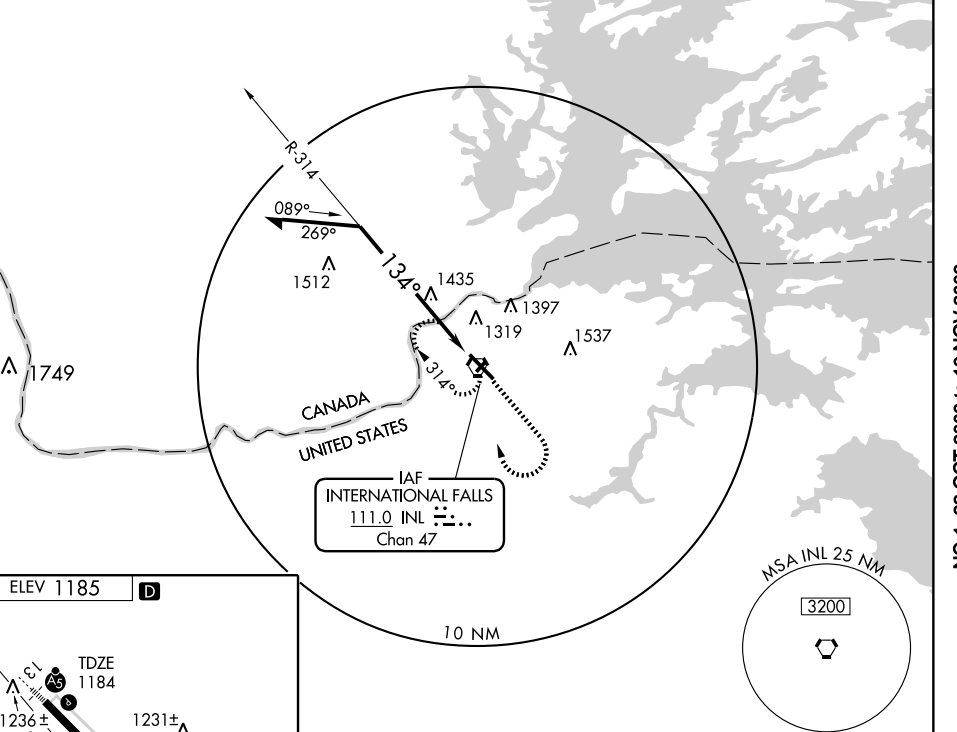
MALSR

⬇

A5

MISSED APPROACH: Climb to 2900 then right turn direct INL VORTAC and hold.

ASOS	MINNEAPOLIS CENTER	UNICOM
120.0	120.9 377.1	122.8 (CTAF) 0



Remain within 10 NM

2900	↑	↻	INL 111.0
------	---	---	--------------

CATEGORY	A	B	C	D
S-13	1880-½ 696 (700-½)		1880-1½ 696 (700-1½)	1880-1¾ 696 (700-1¾)
CIRCLING	1880-1 695 (700-1)		1880-2 695 (700-2)	1880-2¼ 695 (700-2¼)

NC-1: 22 OCT 2009 to 19 NOV 2009

For inoperative MALSR, increase S-31 Cat. D visibility to 1 1/4 .

Circling to Rwy 4-22 NA at night.

MALSR

MISSED APPROACH: Climb to 2900 then left turn

direct INL VORTAC and hold.

ASOS 120.0	MINNEAPOLIS CENTER 120.9 377.1	UNICOM 122.8 (CTAF) 0
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ELEV 1185

D

HIRL Rwy 13-31 0

2900			INL 111.0	VORTAC	Remain within 10 NM
				123°	2900
				303°	
CATEGORY	A	B	C	D	
S-31	1600-1/2	426 (500-1/2)	1600-3/4 426 (500-3/4)	1600-1 426 (500-1)	
CIRCLING	1620-1 435 (500-1)	1680-1 495 (500-1)	1680-1 1/2 495 (500-1 1/2)	1840-2 655 (700-2)	

NC-1: 22 OCT 2009 to 19 NOV 2009



APP CRS	Rwy Idg	<b>3591</b>
<b>134°</b>	TDZE	<b>1445</b>
	Apt Elev	<b>1446</b>

## RNAV (GPS) RWY 13

JACKSON MUNI (MJQ)

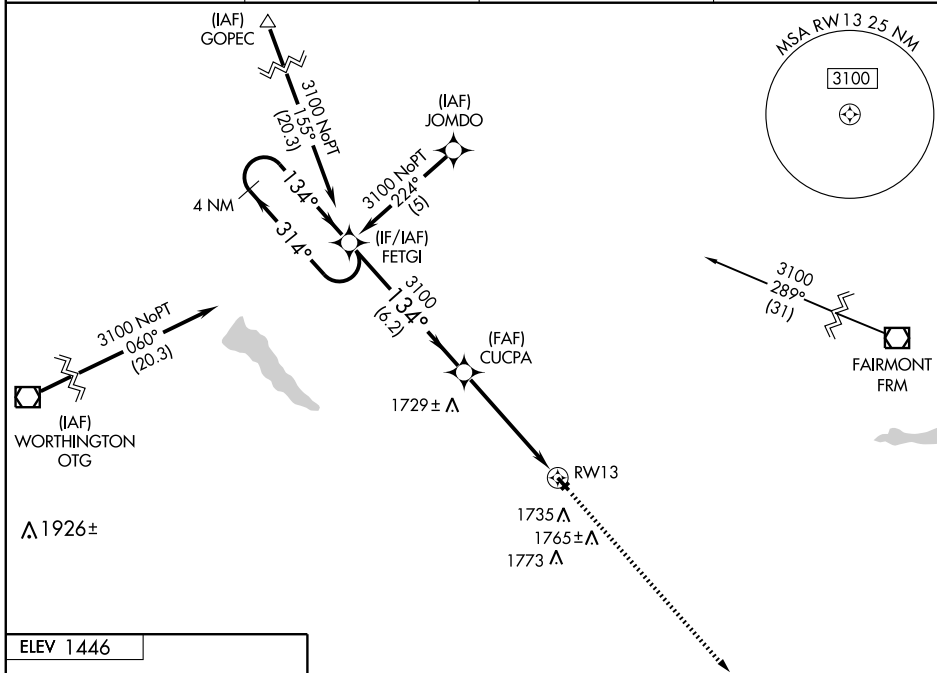
<b>T</b>	DME/DME RNP -0.3 NA.
<b>A</b>	<p>Visibility reduction by helicopters NA.</p> <p>When local altimeter setting not received, use Estherville altimeter setting and increase all MDAs 60 feet and visibility Cat C ¼ mile.</p>

**MISSED APPROACH:** Climb to 4200 direct MCQIN and hold.

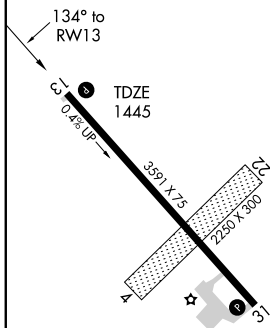
AWOS-3  
353

MINNEAPOLIS CENTER  
127.75 257.7

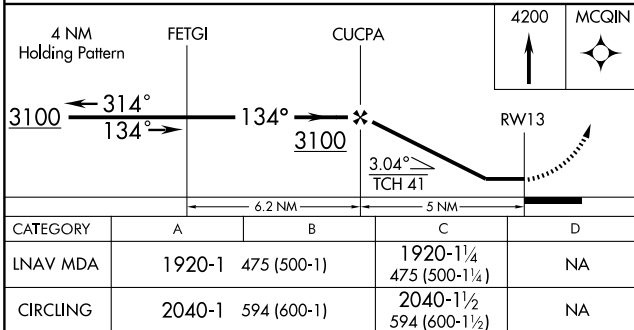
GCO  
**121.725**

UNICOM  
122.8 (CTAF) **L**

ELEV 1446



Procedure NA for arrivals at OTG VOR/DME via V250 southwest bound.





NC-1. 22 OCT 2009 to 19 NOV 2009

REIL Rwys 13 and 31 **L**  
MIRL Rwy 13-31 **L**

APP CRS <b>314°</b>	Rwy Idg TDZE Apt Elev	<b>3591</b> <b>1445</b> <b>1446</b>
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RNAV (GPS) RWY 31  
JACKSON MUNI (MJQ)

	DME/DME RNP -0.3 NA.
	When local altimeter setting not received, use Estherville altimeter setting and increase all MDAs 60 feet and visibility Cat C ¼ mile.

MISSED APPROACH: Climb to 3100 direct FETGI and hold.

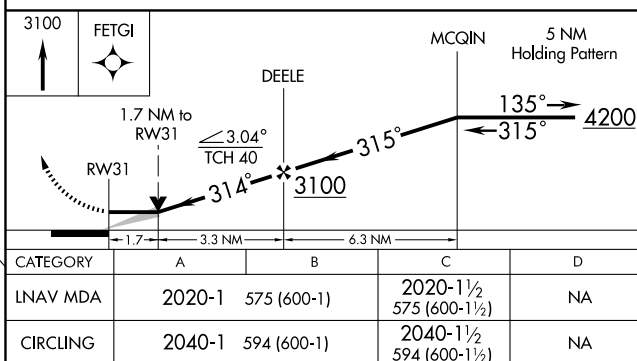
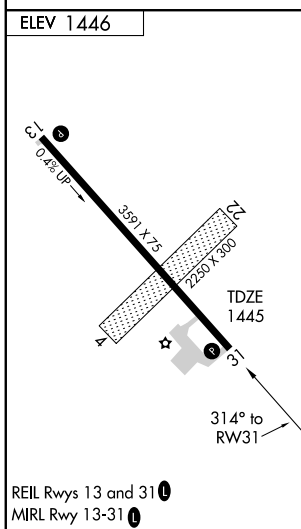
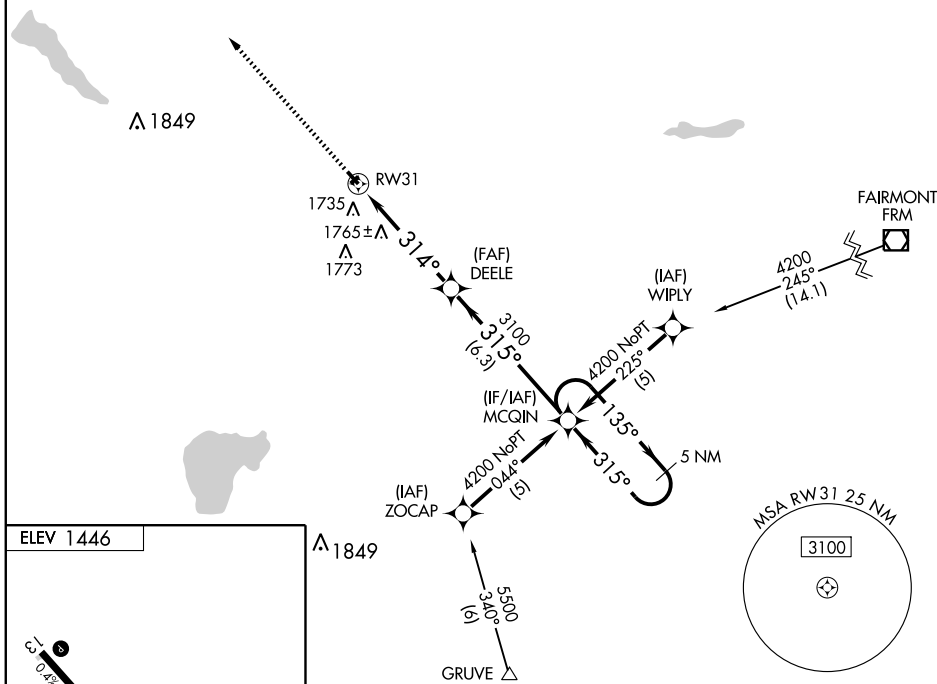
AWOS-3  
353

MINNEAPOLIS CENTER  
127.75 257.7

GCO  
121.725

UNICOM  
122.8 (CTAF) **L**

Procedure NA for arrivals at FRM VOR/DME via V170 eastbound.



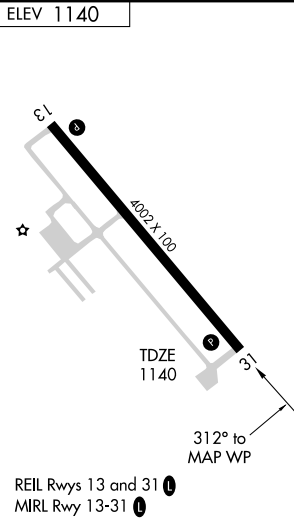
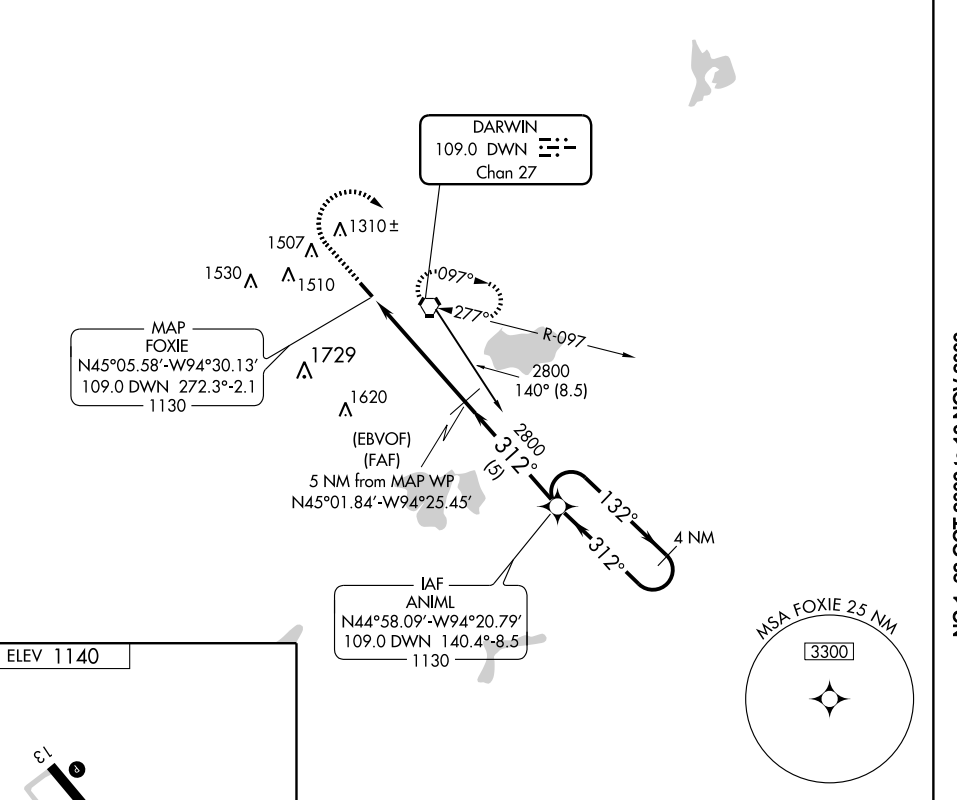


MISSED APPROACH: Climb to 1800 then climbing right turn to 2800 direct DWN VORTAC and hold.

AWOS-3  
109.0

MINNEAPOLIS CENTER  
125.5 323.1

CTAF  
122.9



	1800	2800	DWN 109.0	(EBVOF) 5 NM from MAP WP	ANIML WP	4 NM Holding Pattern
				FOxie MAP WP		
				312°	132°	2800
				3.04°	312°	
				1.1 NM	3.9 NM	5 NM
CATEGORY	A	B	C	D		
S-31	1540-1	400 (400-1)		1540-1½ 400 (400-1½)		
CIRCLING	1600-1	460 (500-1)	1600-1½ 460 (500-1½)	1800-2 660 (700-2)		

NC-1: 22 OCT 2009 to 19 NOV 2009

VORTAC DWN <b>109.0</b> Chan <b>27</b>	APP CRS <b>106°</b>	Rwy Idg <b>4002</b> TDZE <b>1140</b> Apt Elev <b>1140</b>
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VOR/DME RWY 13  
LITCHFIELD MUNI (LJF)

LITCHFIELD MUNI (LJF)

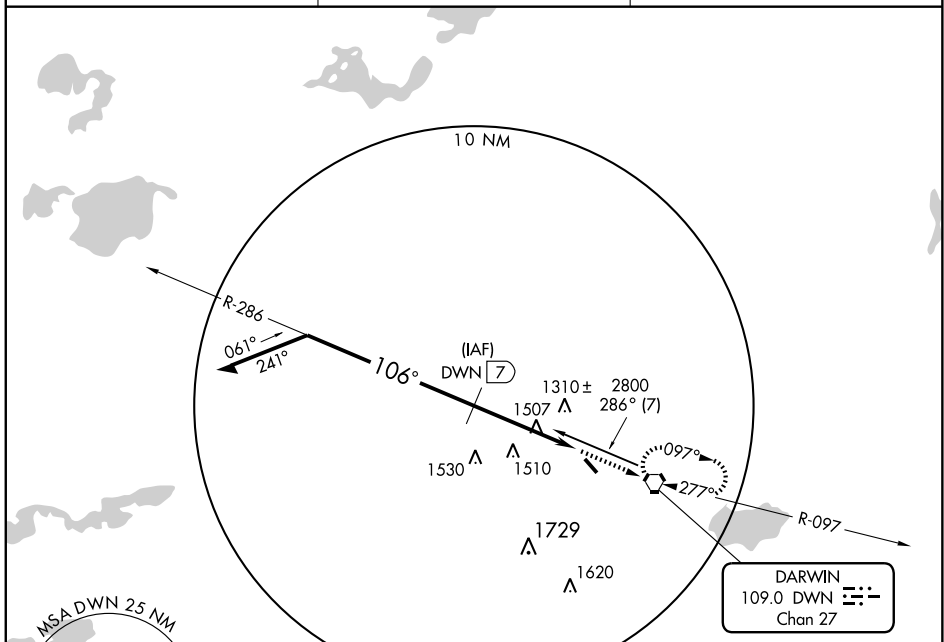


**MISSED APPROACH:** Climb to 2800 direct DWN VORTAC and hold.

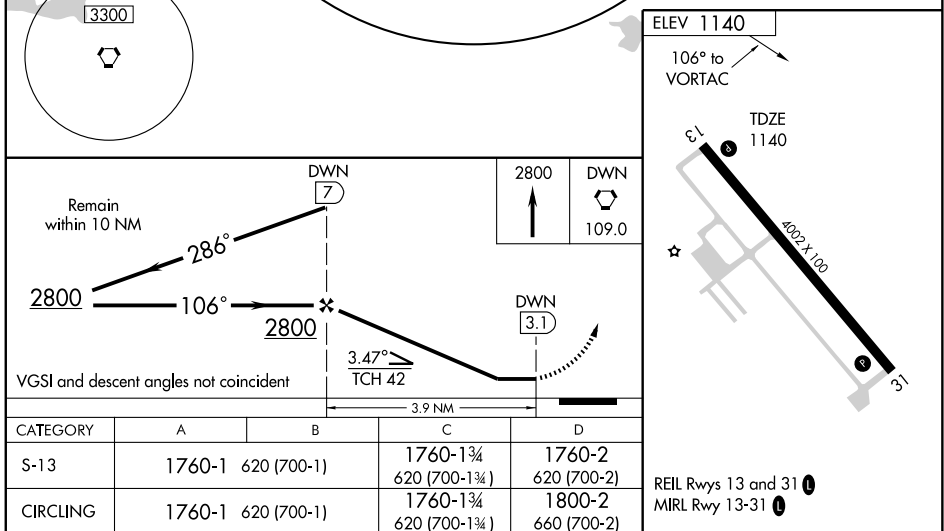
AWOS-3  
109.0

MINNEAPOLIS CENTER  
125.5 323.1

CTAF  
122.9 **L**



NC-1. 22 OCT 2009 to 19 NOV 2009

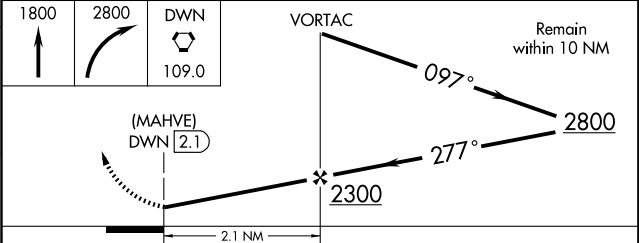
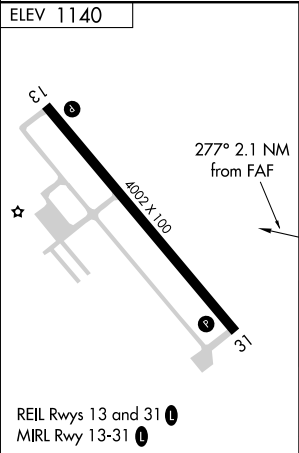
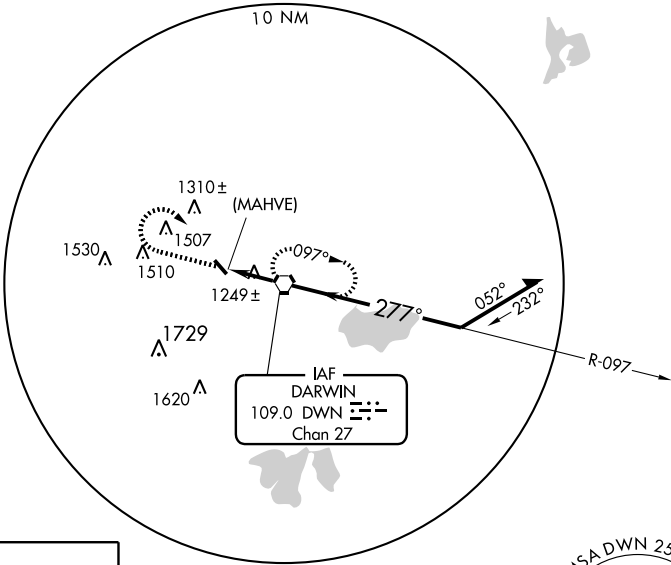


VOR or GPS-A  
LITCHFIELD MUNI (LJF)

VORTAC DWN <b>109.0</b> Chan <b>27</b>	APP CRS <b>277°</b>	Rwy Idg TDZE Apt Elev <b>N/A</b> <b>1140</b>
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MISSED APPROACH: Climb to 1800 then climbing right turn to 2800 direct DWN VORTAC and hold.

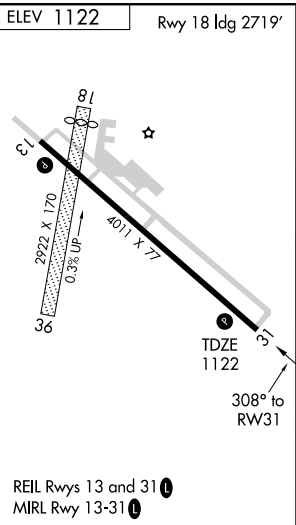
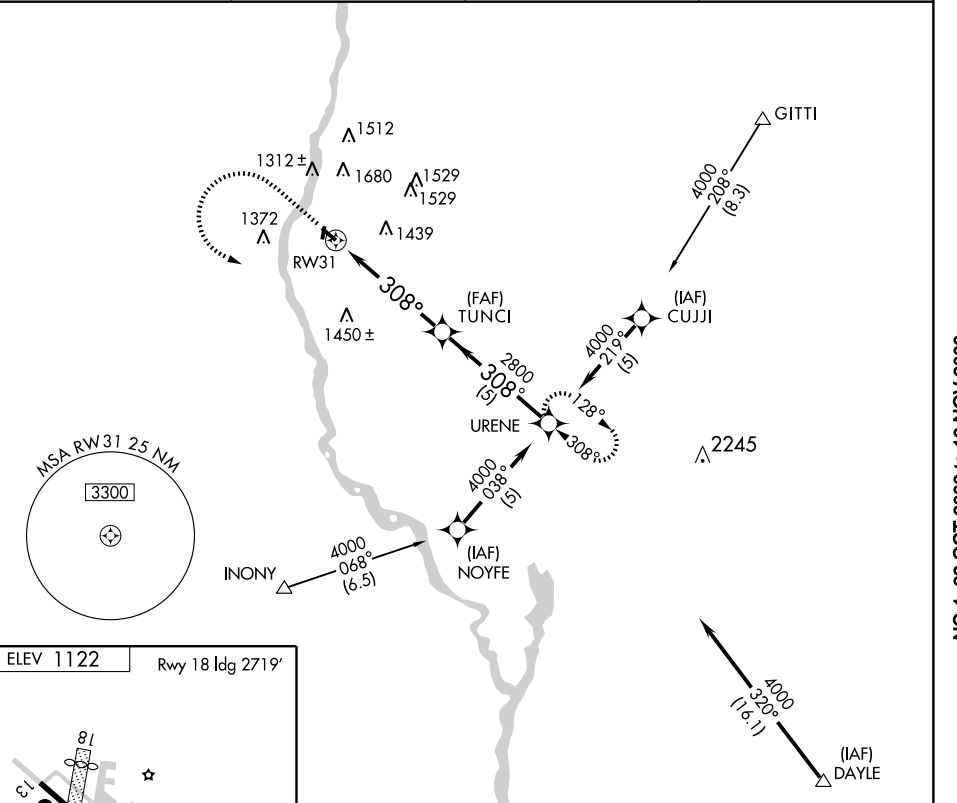
AWOS-3 <b>109.0</b>	MINNEAPOLIS CENTER <b>125.5 323.1</b>	CTAF <b>122.9</b>
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FAF to MAP 2.1 NM							CATEGORY	A	B	C	D
Knots	60	90	120	150	180		CIRCLING	1600-1	460 (500-1)	1600-1½ 460 (500-1½)	1800-2 660 (700-2)
Min:Sec	2:06	1:24	1:03	0:50	0:42						

APP CRS	Rwy Idg	4011
308°	TDZE	1122
	Apt Elev	1122

<div><div>▼</div><div>▲ NA</div></div>		MISSED APPROACH: Climb to 3000 then climbing left turn to 4000 direct URENE WP and hold.	
AWOS-3 359	MINNEAPOLIS CENTER 118.05 239.0	GCO 121.725	UNICOM 122.8 (CTAF) <b>1</b>





<div><div>3000</div><div>4000</div><div>URENE</div></div>				
<div><div>RW31</div><div>1.5 NM to RW31</div><div>TUNCI</div><div>URENE</div><div>4000</div><div>Procedure Turn NA</div></div>				
<div><div>1.5</div><div>3.5 NM</div><div>5 NM</div></div>				
CATEGORY	A	B	C	D
S-31	1660-1	538 (600-1)	1660-1½ 538 (600-1¾)	1660-1¾ 538 (600-1¾)
CIRCLING	1700-1 578 (600-1)	1720-1 598 (600-1)	1720-1½ 598 (600-1½)	1980-2¾ 858 (900-2¾)

NC-1: 22 OCT 2009 to 19 NOV 2009

NDB LXL <b><u>359</u></b>	APP CRS <b>312°</b>	Rwy Idg <b>4011</b> TDZE <b>1122</b> Apt Elev <b>1122</b>
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NDB RWY 31

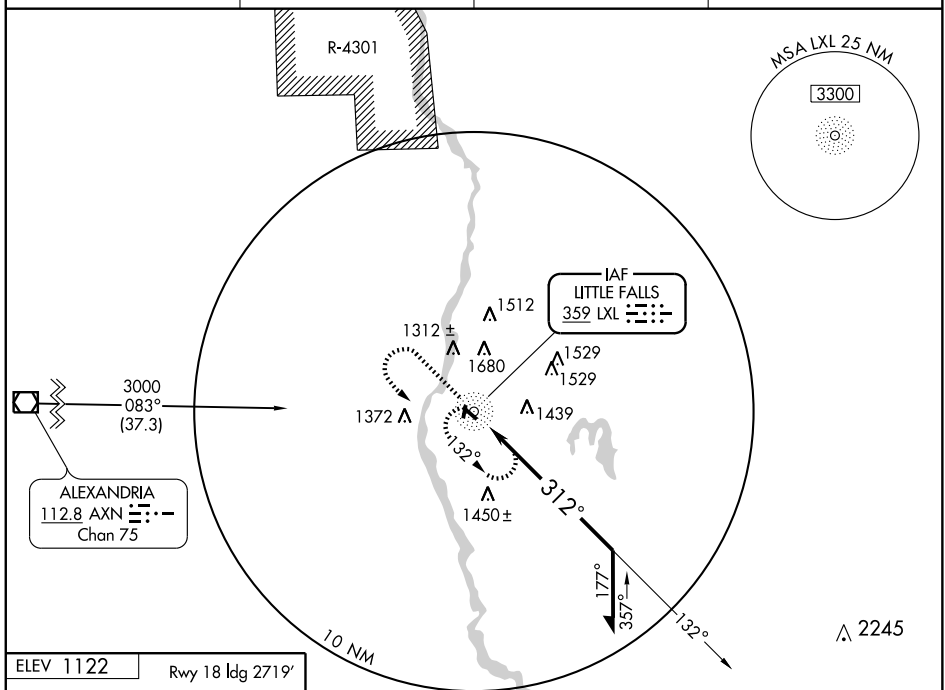
LITTLE FALLS/MORRISON COUNTY, CHARLES A. LINDBERGH FIELD (LXL)

  NA	MISSED APPROACH: Climb to 3000 then left turn direct LXL NDB and hold.
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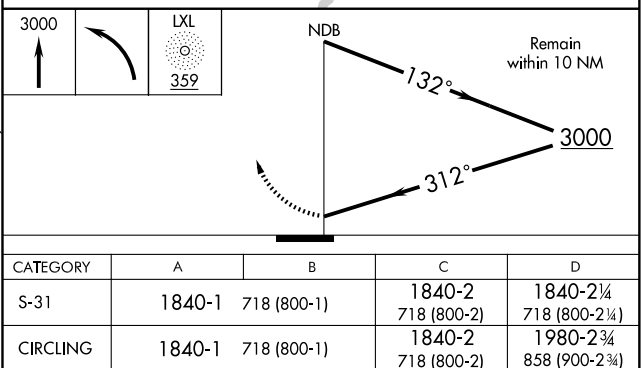
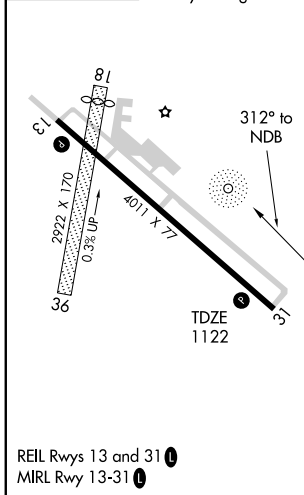
AWOS-3  
359

MINNEAPOLIS CENTER  
118.05 239.0

GCO  
121.725

UNICOM  
122.8 (CTAF) **L**

ELEV 1122	Rwy 18 ldg 2719'
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APP CRS	Rwy Idg	<b>3000</b>
<b>344°</b>	TDZE	<b>1332</b>
	Apt Elev	<b>1333</b>

## RNAV (GPS) RWY 34

LONG PRAIRIE/ TODD FIELD (14Y)

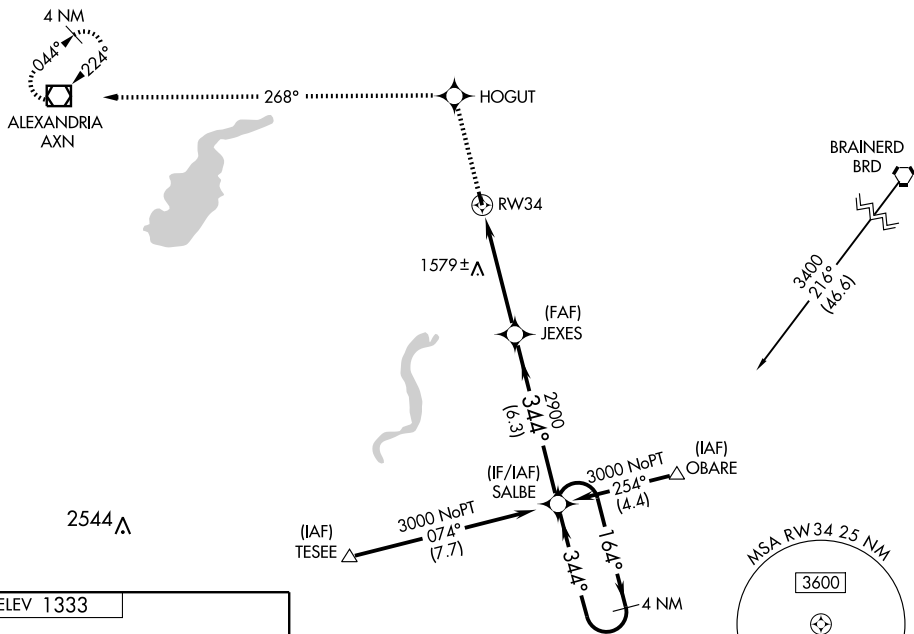
<b>T</b>	Procedure NA at night.
<b>A</b> NA	DME/DME RNP- 0.3 NA. Visibility reduction by helicopters NA. When local altimeter setting not received, use Alexandria altimeter setting.

**MISSED APPROACH:** Climb to 3000 direct HOGUT and via 268° track to ALEXANDRIA VOR/DME and hold.

AWOS-3  
118,650

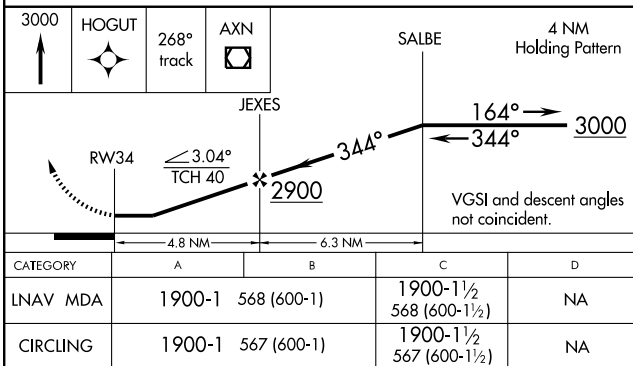
MINNEAPOLIS CENTER  
126.1 269.2

CTAF  
**122.9**



Procedure NA for arrivals at OBARE via V2 southeast bound.

Procedure NA for arrival on BRD VORTAC airway radials 156 CW 171.



NC-1. 22 OCT 2009 to 19 NOV 2009

MIRL Rwy 16-34  
REIL Rwy 16 and 34

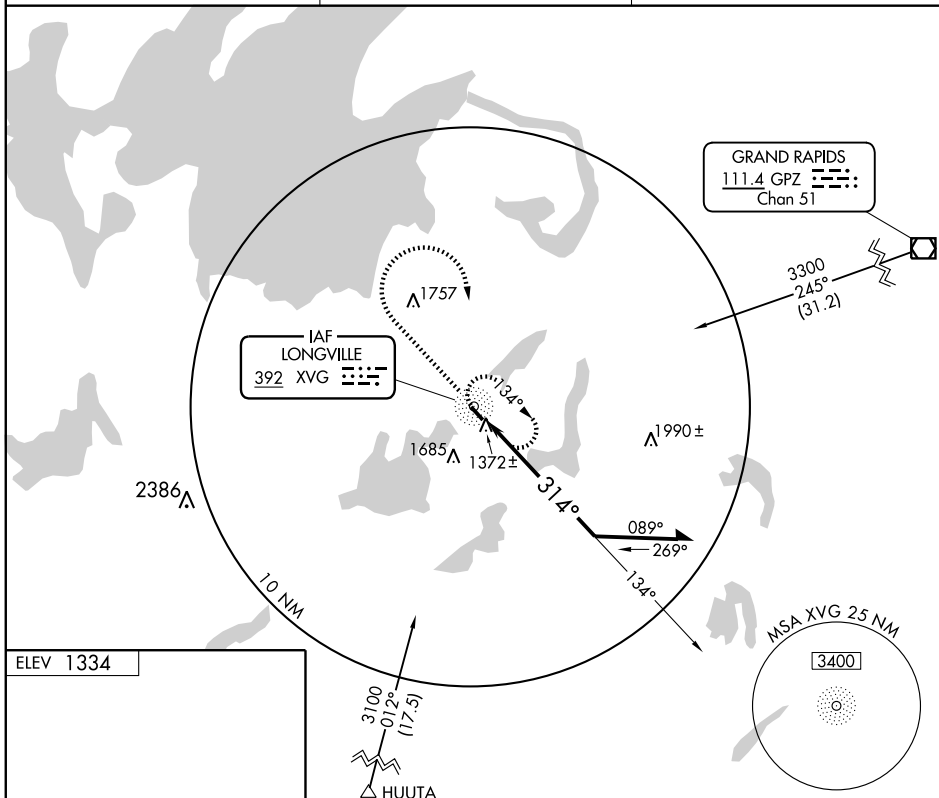
NDB XVG <b><u>392</u></b>	APP CRS <b>314°</b>	Rwy Idg TDZE Apt Elev	<b>3800</b> <b>1332</b> <b>1334</b>
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NDB RWY 31  
LONGVILLE MUNI (XVG)

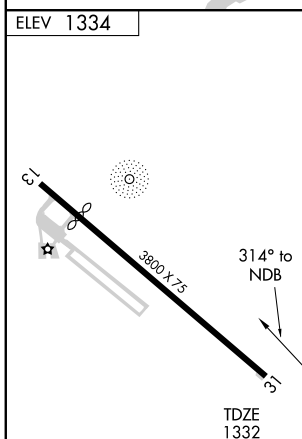
**ANA**


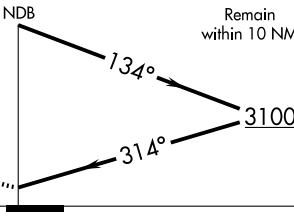
**MISSED APPROACH:** Climb to 3100 then right turn direct XVG NDB and hold.

AWOS-3 <b>392</b>	MINNEAPOLIS CENTER <b>118.05 239.0</b>	CTAF <b>122.9 0</b>
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NC-1. 22 OCT 2009 to 19 NOV 2009



3100 ↑		XVG ○ 392		
CATEGORY	A	B	C	D
S-31	1920-1 588 (600-1)		NA	
CIRCLING	1920-1 586 (600-1)		NA	

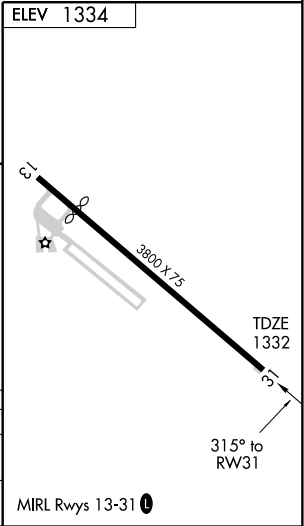
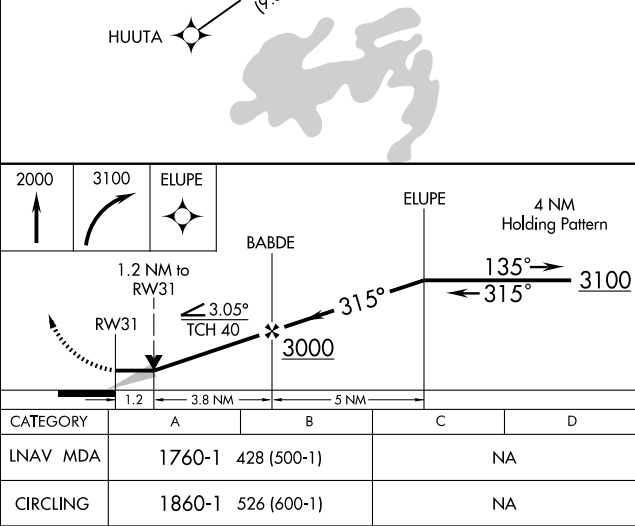
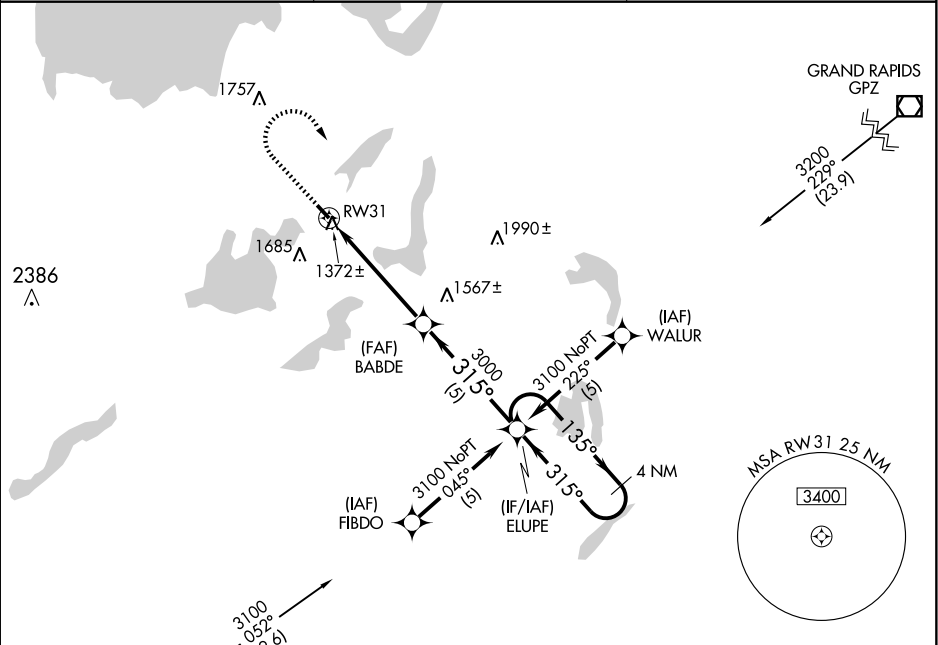
APP CRS	Rwy Idg	3800
315°	TDZE	1332
	Apt Elev	1334

# RNAV (GPS) RWY 31

LONGVILLE MUNI (XVG)

<b>NA</b>	GPS or RNP- 0.3 required. DME/DME RNP- 0.3 NA	MISSED APPROACH: Climb to 2000 then climbing right turn to 3100 direct ELUPE WP and hold.
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AWOS-3 <b>392</b>	MINNEAPOLIS CENTER <b>118.05 239.0</b>	CTAF <b>122.9 0</b>
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NDB DXX	APP CRS	Rwy Idg	3301
341	306°	TDZE	1082
		Apt Elev	1082

# NDB or GPS RWY 31

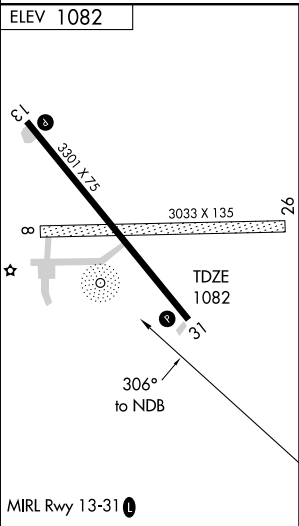
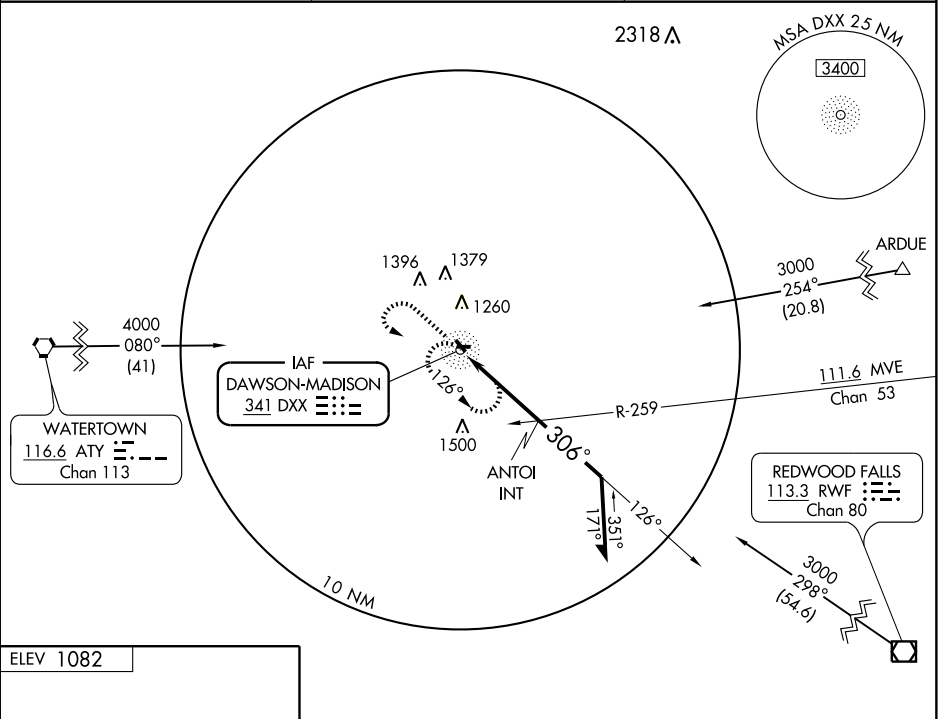
MADISON/LAC QUI PARLE COUNTY (DXX)

▲ NA

Activate MIRL Rwy 13-31-CTAF.

MISSED APPROACH: Climb to 2200 then climbing left turn to 2600 direct DXX NDB and hold.

AWOS-3 341	MINNEAPOLIS CENTER 128.5 306.2	UNICOM 122.8 (CTAF) 0
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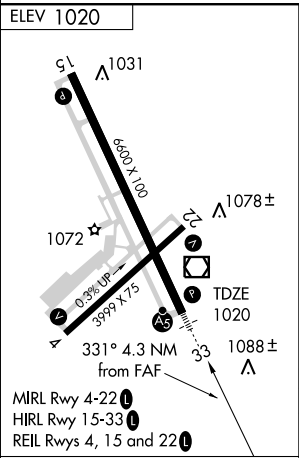
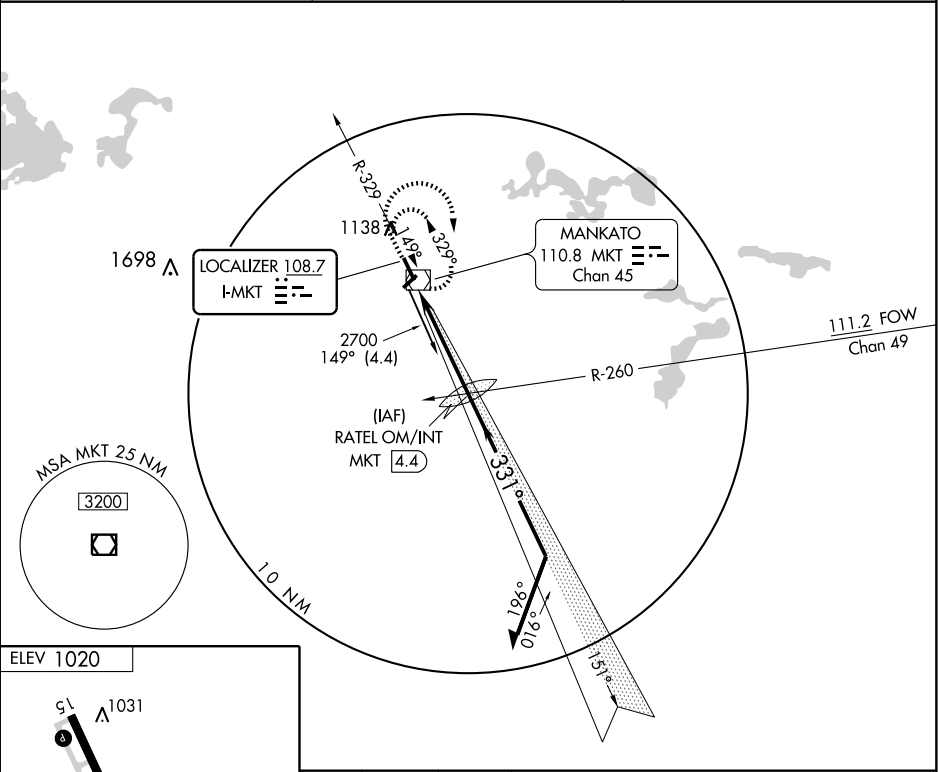
	2200	2600	DXX 341	NDB	Remain within 10 NM
				126°	
				306°	2600
				1620	
				3.8 NM	
CATEGORY	A	B	C	D	
S-31	1620-1	538 (600-1)	1620-1½ 538 (600-1½)	NA	
CIRCLING	1620-1	538 (600-1)	1620-1½ 538 (600-1½)	NA	
ANTOI FIX MINIMA					
S-31	1500-1	418 (500-1)	1500-1¼ 418 (500-1¼)	NA	
CIRCLING	1560-1	478 (500-1)	1560-1½ 478 (500-1½)	NA	

LOC I-MKT <b>108.7</b>	APP CRS <b>331°</b>	Rwy Idg TDZE Apt Elev <b>6600</b> <b>1020</b> <b>1020</b>
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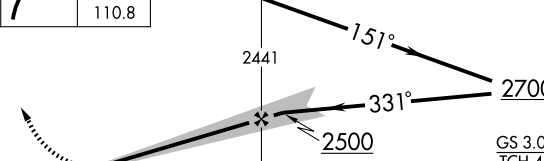
COPTER ILS or LOC RWY 33  
MANKATO RGNL (MKT)

<b>▼</b> For inoperative MALS increase visibility to ½ mile.	MALS 	MISSED APPROACH: Climb to 2000 then climbing right turn to 2700 direct MKT VOR/DME and hold.
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AWOS-3 <b>110.8</b>	MINNEAPOLIS CENTER <b>135.0 306.9</b>	UNICOM <b>122.725</b> (CTAF) <b>1</b>
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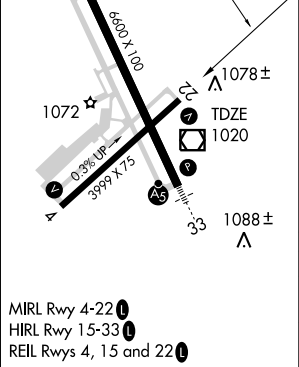
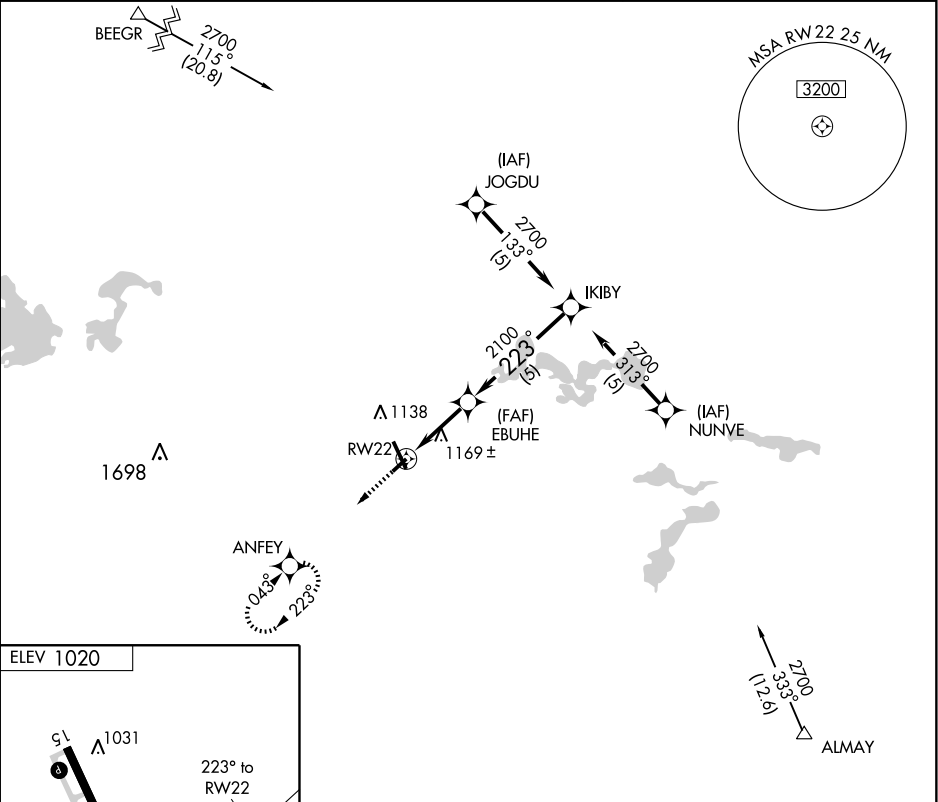
FAF to MAP 4.3 NM					
Knots	45	60	75	90	105
Min:Sec	5:44	4:18	3:26	2:52	2:27

<div>2000 ↑</div>		<div>2700 ↗</div>	<div>MKT  110.8</div>	<div>RATE OM/INT MKT <span>4.4</span></div>		<div>Remain within 10 NM</div>
<div></div>						
CATEGORY	COPTER	B	C	D		
S-ILS 33	1220-¼ 200 (200-¼)		NA			
S-LOC 33	1420-¼ 400 (400-¼)		NA			
CIRCLING	NA					

APP CRS	Rwy Idg	3999
223°	TDZE	1020
	Apt Elev	1020

GPS RWY 22  
MANKATO RGNL (MKT)

▼ ▲ NA		MISSED APPROACH: Climb to 2700 direct ANFEY WP and hold.
AWOS-3 110.8	MINNEAPOLIS CENTER 135.0 306.9	UNICOM 122.725 (CTAF) 0



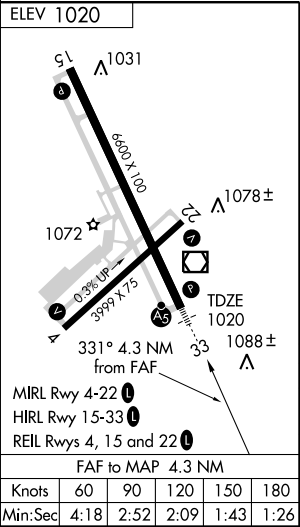
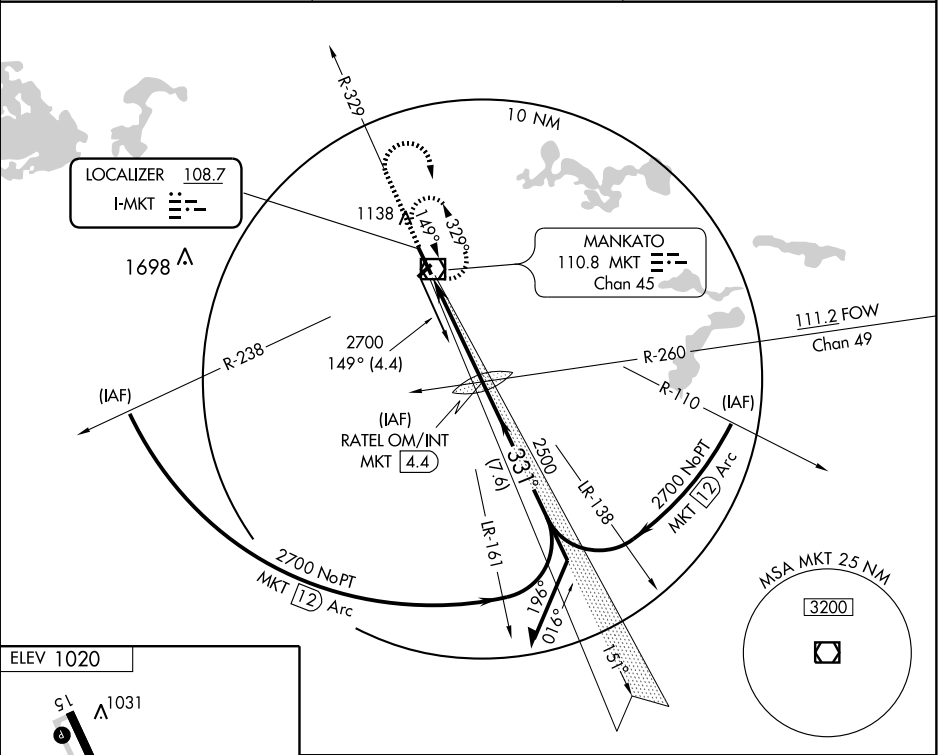
2700 ANFEY		Procedure IKIBY Turn NA			
		2700			
		2100			
		3 NM 5 NM			
CATEGORY	A	B	C	D	
S-22	1420-1 400 (400-1)			1420-1¼ 400 (400-1¼)	
CIRCLING	1460-1 440 (500-1)	1480-1 460 (500-1)	1480-1½ 460 (500-1½)	1580-2 560 (600-2)	




LOC I-MKT	APP CRS	Rwy Idg	6600
108.7	331°	TDZE	1020
		Apt Elev	1020

ILS RWY 33  
MANKATO RGNL (MKT)

	MALSR 	MISSED APPROACH: Climb to 2000 then climbing right turn to 2700 direct MKT VOR/DME and hold.
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AWOS-3 110.8	MINNEAPOLIS CENTER 135.0 306.9	UNICOM 122.725 (CTAF) 
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	2000	2700	MKT	RATEL OM/INT MKT 4.4	Remain within 10 NM
				110.8	
				2441	151°
					331°
					2700
					2500
				4.3 NM	GS 3.00° TCH 45
CATEGORY	A	B	C	D	
S-ILS 33	1220-½ 200 (200-½)				
S-LOC 33	1420-½ 400 (400-½)			1420-¾ 400 (400-¾)	
CIRCLING	1460-1 440 (500-1)	1480-1 460 (500-1)	1480-1½ 460 (500-1½)	1580-2 560 (600-2)	

WAAS	APP CRS	Rwy Idg	6600
CH 45615	151°	TDZE	1020
W15A		Apt Elev	1021

▼

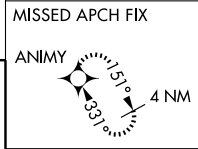
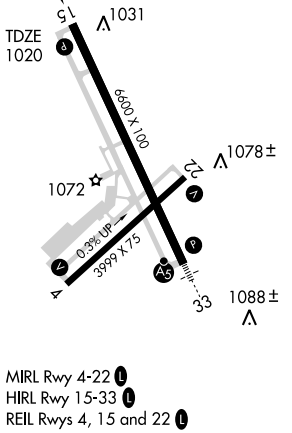
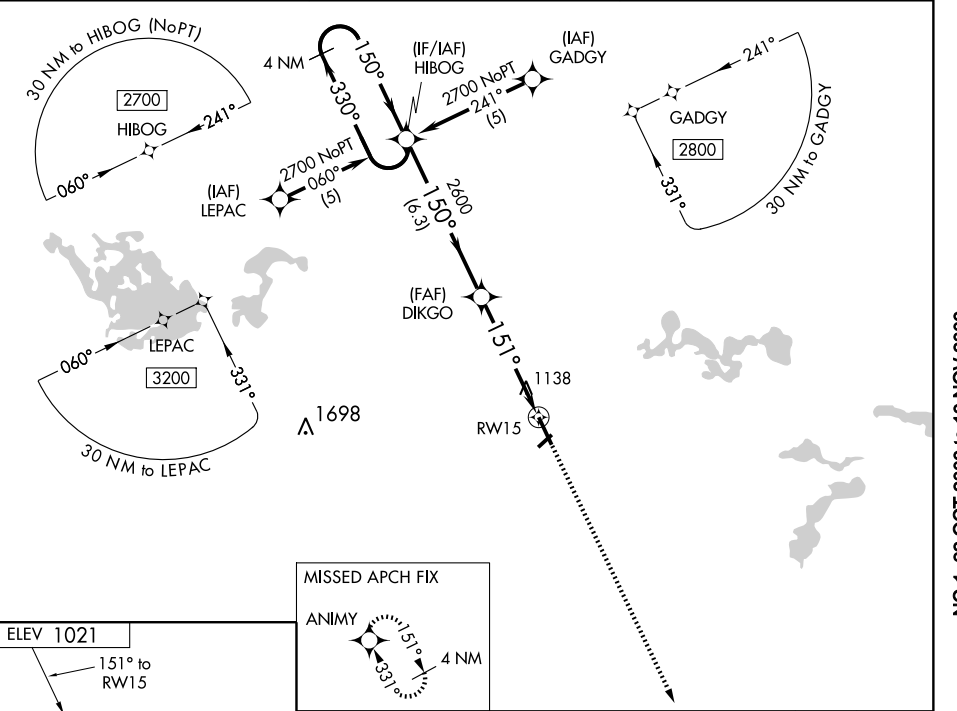
Baro-VNAV NA when using Waseca altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (114°F). DME/DME RNP-0.3 NA.

▲

Visibility reduction by helicopters NA. When local altimeter setting not received use Waseca altimeter setting and increase all DA 57 feet and all MDA 60 feet and increase LPV all Cats visibility ¼ mile, and LNAV Cats C/D visibility ¼ mile.

MISSED APPROACH:  
Climb to 2900 direct ANIMY and hold.

AWOS-3 110.8	MINNEAPOLIS CENTER 135.0 306.9	UNICOM 122.725 (CTAF) 0
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4 NM Holding Pattern		HIBOG		2900	ANIMY
2700		330°	150°	2600	
GS 3.00°		DIKGO		RW15	
TCH 48		150°		151°	
		6.3 NM		4.8 NM	
CATEGORY	A	B	C	D	
LPV DA	1373-1¼		353 (400-1¼)		
LNAV/VNAV DA	1416-1½		396 (400-1½)		
LNAV MDA	1400-1		380 (400-1)		1400-1¼ 380 (400-1¼)
CIRCLING	1440-1		1480-1		1580-2
	419 (500-1)		459 (500-1)		559 (600-2)

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WAAS CH <b>86315</b> <b>W33A</b>	APP CRS <b>331°</b>	Rwy Idg <b>6600</b> TDZE <b>1021</b> Apt Elev <b>1021</b>
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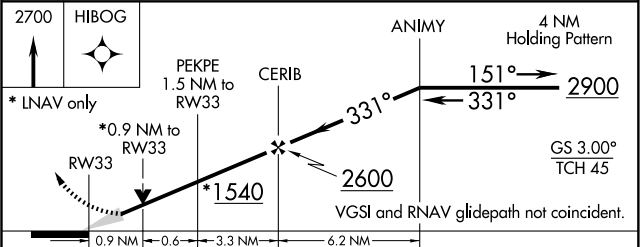
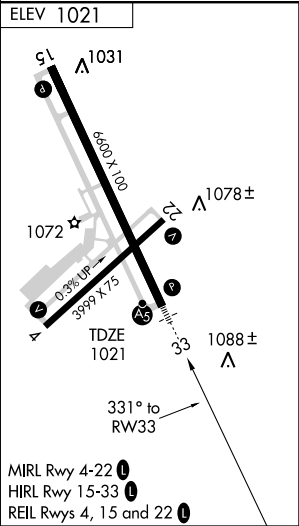
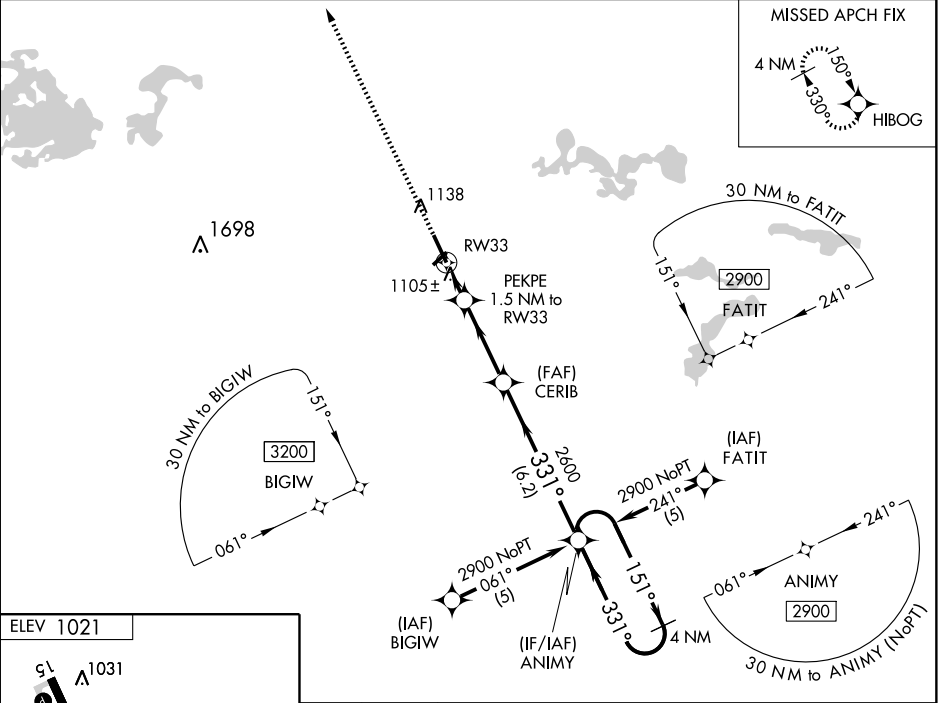
RNAV (GPS) RWY 33  
MANKATO RGNL (MKT)

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (114°F). DME/DME RNP-0.3 NA. When local altimeter setting not received use Waseca altimeter setting and increase all DA 57 feet, all MDA 60 feet, and increase LNAV/VNAV all Cats visibility ¼ mile. Inoperative table does not apply to LNAV Cat D. When using Waseca altimeter setting; for inoperative MALSR increase LPV all Cats visibility ½ mile and LNAV Cat D visibility ¼ mile. Baro-VNAV and VDP NA when using Waseca altimeter setting.



MISSED APPROACH:  
Climb to 2700 direct  
HIBOG and hold.

AWOS-3 <b>110.8</b>	MINNEAPOLIS CENTER <b>135.0 306.9</b>	UNICOM <b>122.725 (CTAF) 0</b>
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CATEGORY	A	B	C	D
LPV DA		1221-1/2	200 (200-1/2)	
LNAV/VNAV DA		1375-3/4	354 (400-3/4)	
LNAV MDA		1360-1/2	339 (400-1/2)	1360-1 339 (400-1)
CIRCLING	1440-1 419 (500-1)	1480-1 459 (500-1)	1480-1 1/2 459 (500-1 1/2)	1580-2 559 (600-2)

▼

▲

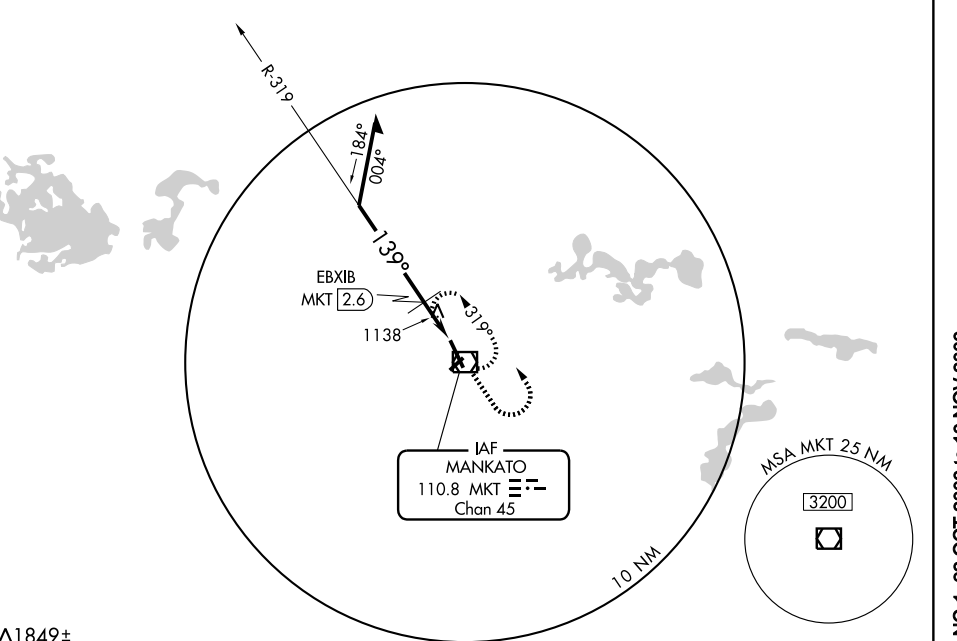
When local altimeter setting not received use Waseca altimeter setting and increase EBXIB FIX MINIMUMS all MDA 60 feet, increase Circling Cats C and D visibility ¼ mile, and increase EBXIB FIX MINIMUMS S-15 Cats C and D visibility ¼ mile.

MISSED APPROACH: Climb to 2000 then climbing left turn to 2700 direct MKT VOR/DME and hold.

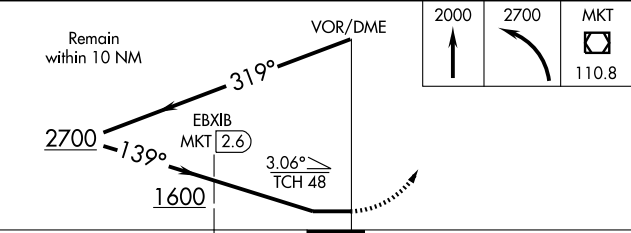
AWOS-3  
110.8

MINNEAPOLIS CENTER  
135.0 306.9

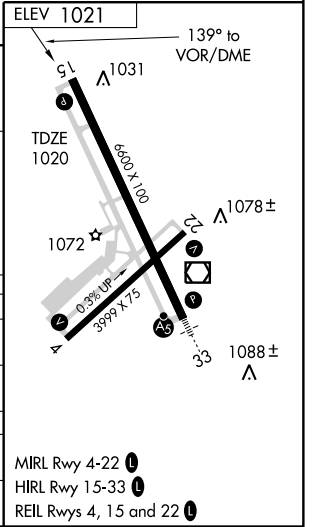
UNICOM  
122.725 (CTAF) 0



▲1849±



CATEGORY	A	B	C	D
S-15	1600-1	580 (600-1)	1600-1½ 580 (600-1½)	1600-1¾ 580 (600-1¾)
CIRCLING	1600-1	579 (600-1)	1600-1½ 579 (600-1½)	1600-2 579 (600-2)
EBXIB FIX MINIMUMS				
S-15	1400-1 380 (400-1)			1400-1¼ 380 (400-1¼)
CIRCLING	1440-1 419 (500-1)	1480-1 459 (500-1)	1480-1½ 459 (500-1½)	1580-2 559 (600-2)



AL-5755 (FAA)

VOR/DME MKT <b>110.8</b> Chan <b>45</b>	APP CRS <b>340°</b>	Rwy Idg <b>6600</b> TDZE <b>1021</b> Apt Elev <b>1021</b>
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VOR RWY 33  
MANKATO RGNL (MKT)

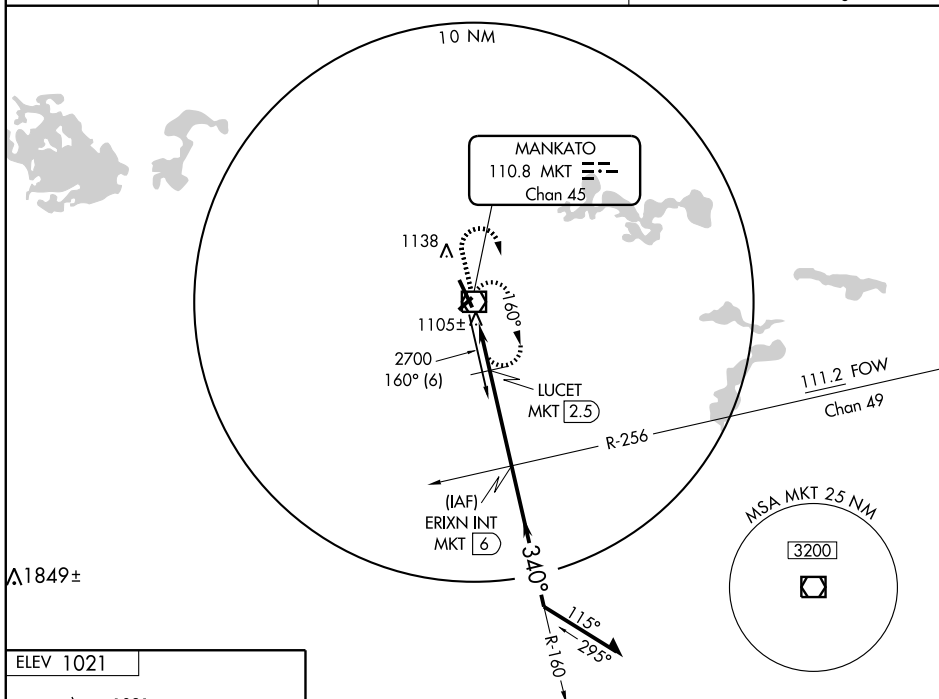
**V** VDP NA when using Waseca altimeter setting. When local altimeter setting not received use Waseca altimeter setting and increase all MDA 60 feet, and increase S-33 Cats C and D visibility  $\frac{1}{4}$  mile and LUCET FIX MINIMUMS S-33 Cat C  $\frac{1}{4}$  mile. **A** For inoperative MALS increase LUCET FIX MINIMUMS Cat D visibility  $\frac{1}{4}$  mile.

MALSR

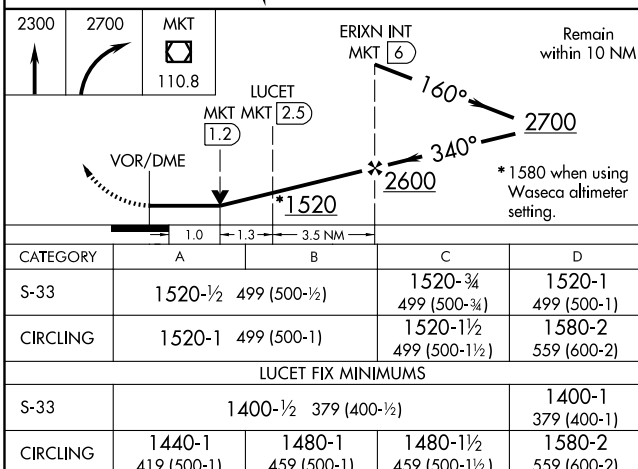
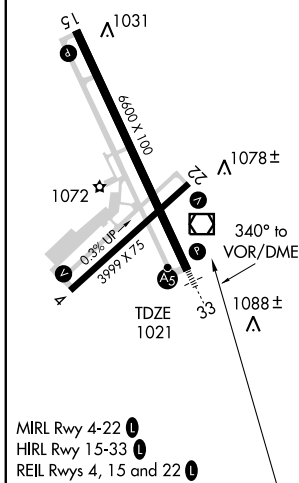
**MISSED APPROACH:** Climb to 2300 then climbing right turn to 2700 direct MKT VOR/DME and hold.

AWOS-3  
110.8

MINNEAPOLIS CENTER  
135.0 306.9

UNICOM  
122.725 (CTAF) **L** $\Delta 1849 \pm$ 

ELEV 1021



NC-1. 22 OCT 2009 to 19 NOV 2009



# AGUDE ONE ARRIVAL

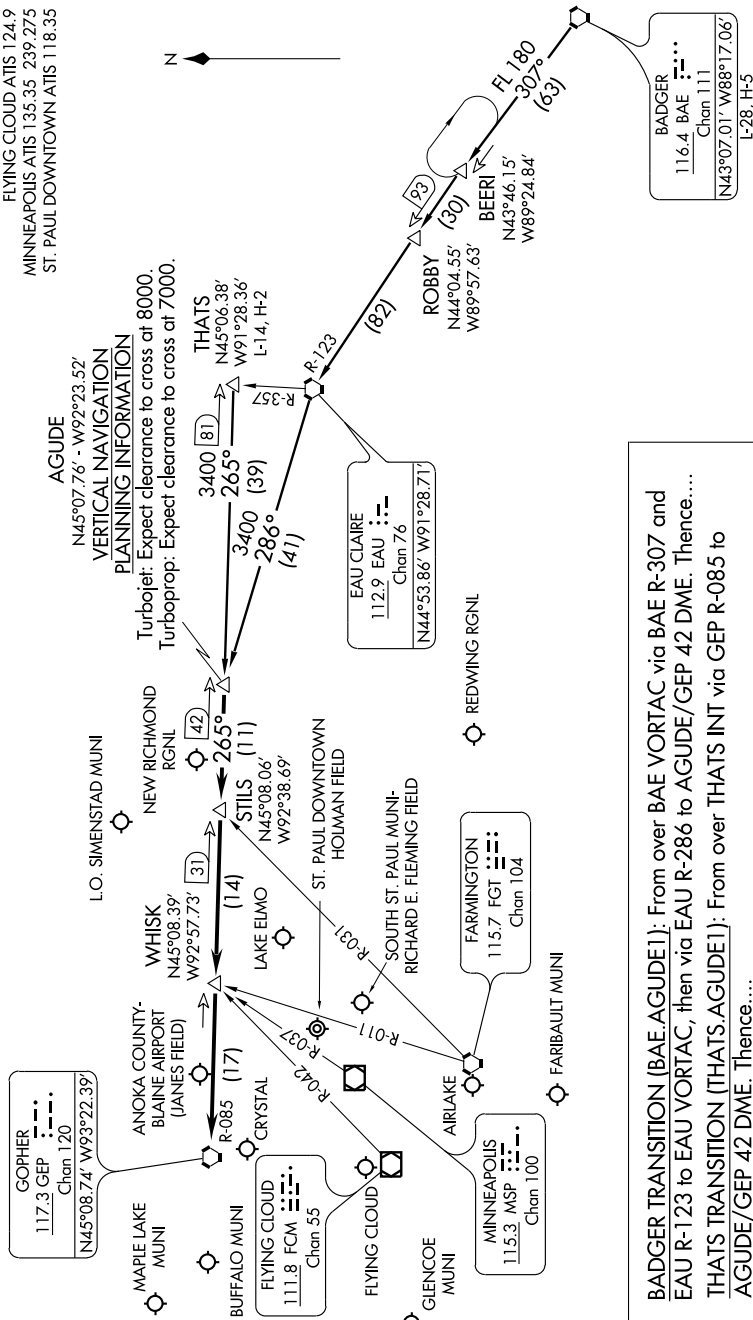
ST-263 (FAA)

MINNEAPOLIS-ST. PAUL, MINNESOTA

MINNEAPOLIS APP CON  
126.95 335.5  
ANOKA COUNTY ATIS 120.625  
CRYSTAL ATIS 124.475  
FLYING CLOUD ATIS 124.9  
MINNEAPOLIS ATIS 135.35 239.275  
ST. PAUL DOWNTOWN ATIS 118.35

AGUDE  
N45°07.76' - W92°23.52'  
VERTICAL NAVIGATION  
PLANNING INFORMATION

Turbopjet: Expect clearance to cross at 8000.  
Turboprop: Expect clearance to cross at 7000.



BADGER TRANSITION [BAE AGUDE1]: From over BAE VORTAC via BAE R-307 and EAU R-123 to EAU VORTAC, then via EAU R-286 to AGUDE/GEF 42 DME. Thence....  
THATS TRANSITION [THATS.AGUDE1]: From over THATS INT via GEP R-085 to AGUDE/GEF 42 DME. Thence....  
....From over AGUDE/GEF 42 DME via the GEP R-085 to GEP VORTAC, then expect radar vector to final approach course.

NOTE: DME and RADAR required.  
NOTE: Chart not to scale.

# AIRPORT DIAGRAM

AL-6585 (FAA)

MAPLE LAKE MUNI (MGG)  
MAPLE LAKE, MINNESOTA

AWOS-3  
128.325  
CTAF/UNICOM  
122.8

45°14.5'N

VAR 2.0° E  
JANUARY 2005  
ANNUAL RATE OF CHANGE  
0.1°W

1063±  
Δ



CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.  
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.

093°59.5'W

093°59'W

NC-1. 22 OCT 2009 to 19 NOV 2009

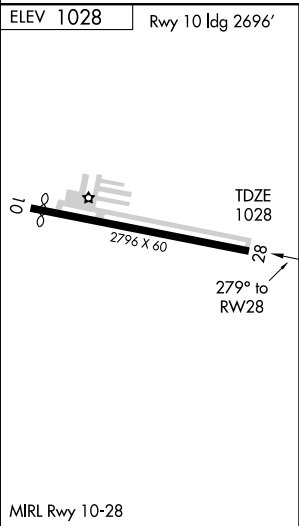
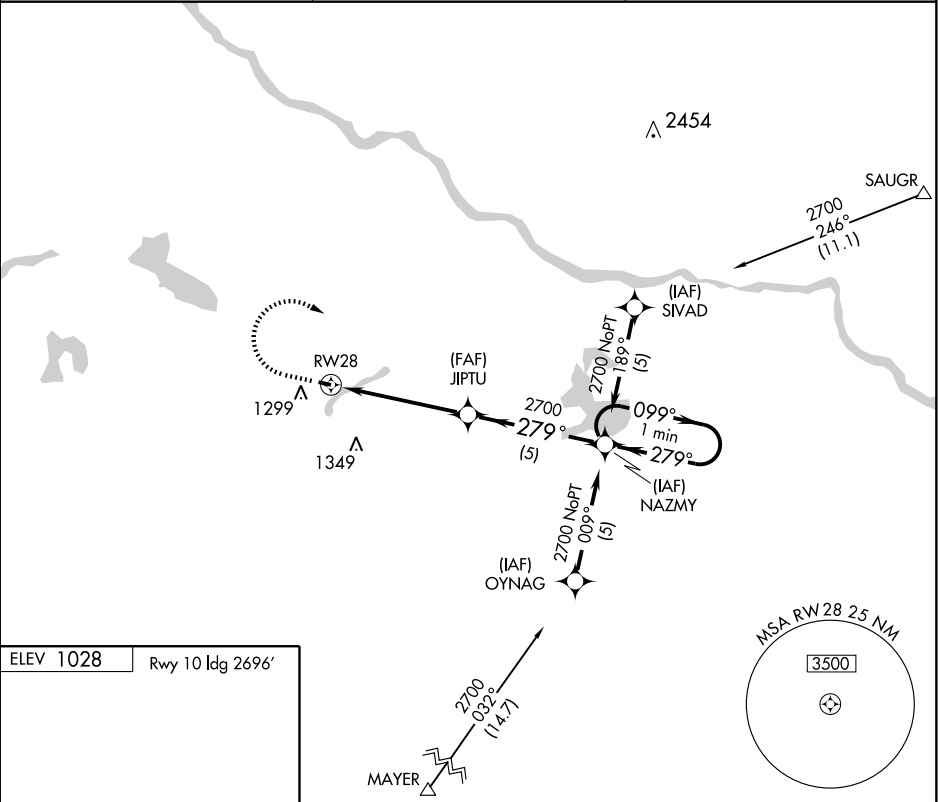
APP CRS	Rwy Idg	2796
279°	TDZE	1028
	Apt Elev	1028

# GPS RWY 28

MAPLE LAKE MUNI (MGG)

▲ NA	MISSED APPROACH: Climb to 2000 then climbing right turn to 2700 direct NAZMY WP and hold.
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AWOS-3 128.325	MINNEAPOLIS APP CON 126.5 357.4	UNICOM 122.8 (CTAF)
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2000 ↑	2700 ↗	NAZMY ✦	JPTU				NAZMY	One Minute Holding Pattern
CATEGORY	A		B		C		D	
S-28	1460-1 432 (500-1)		1460-1¼ 432 (500-1¼)		1460-1½ 572 (600-1½)		NA	
CIRCLING	1600-1 572 (600-1)		1600-1½ 572 (600-1½)		1600-1½ 572 (600-1½)		NA	

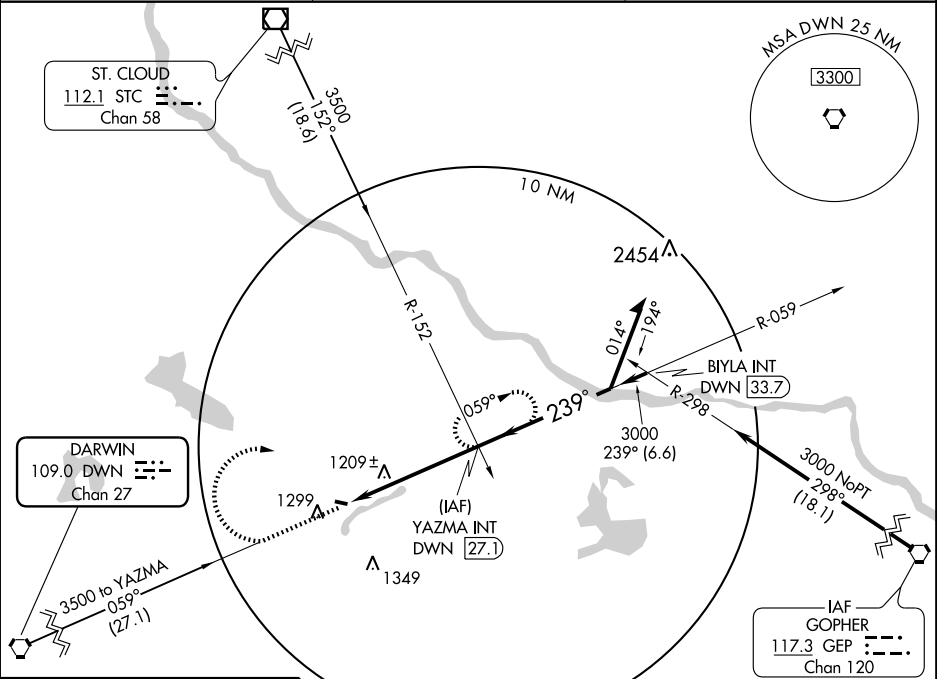
VORTAC DWN <b>109.0</b> Chan <b>27</b>	APP CRS <b>239°</b>	Rwy Idg TDZE Apt Elev	<b>N/A</b> <b>N/A</b> <b>1028</b>
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VOR-A  
MAPLE LAKE MUNI (MGG)

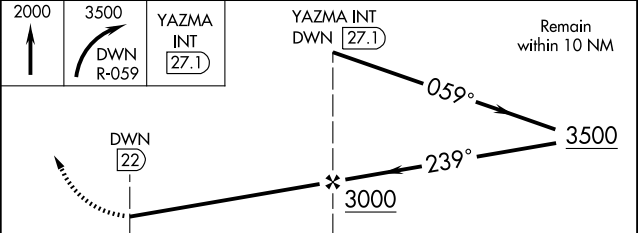
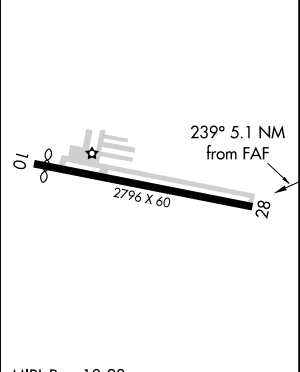
**▲** If local altimeter setting not received, use St. Cloud Regional altimeter setting and increase all MDAs 60 feet.

MISSED APPROACH: Climb to 2000, then climbing right turn to 3500 via DWN R-059 to YAZMA INT/27.1 DME and hold.

AWOS-3 <b>128.325</b>	MINNEAPOLIS APP CON <b>126.5 357.4</b>	UNICOM <b>122.8</b> (CTAF)
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ELEV 1028	Rwy 10 Idg 2696'
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FAF to MAP 5.1 NM						CATEGORY	A	B	C	D
Knots	60	90	120	150	180	CIRCLING	1660-1 632 (700-1)	1660-1¼ 632 (700-1¼)	1660-1¾ 632 (700-1¾)	NA
Min:Sec	5:06	3:24	2:33	2:02	1:42					

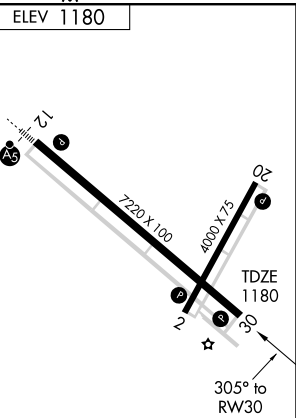
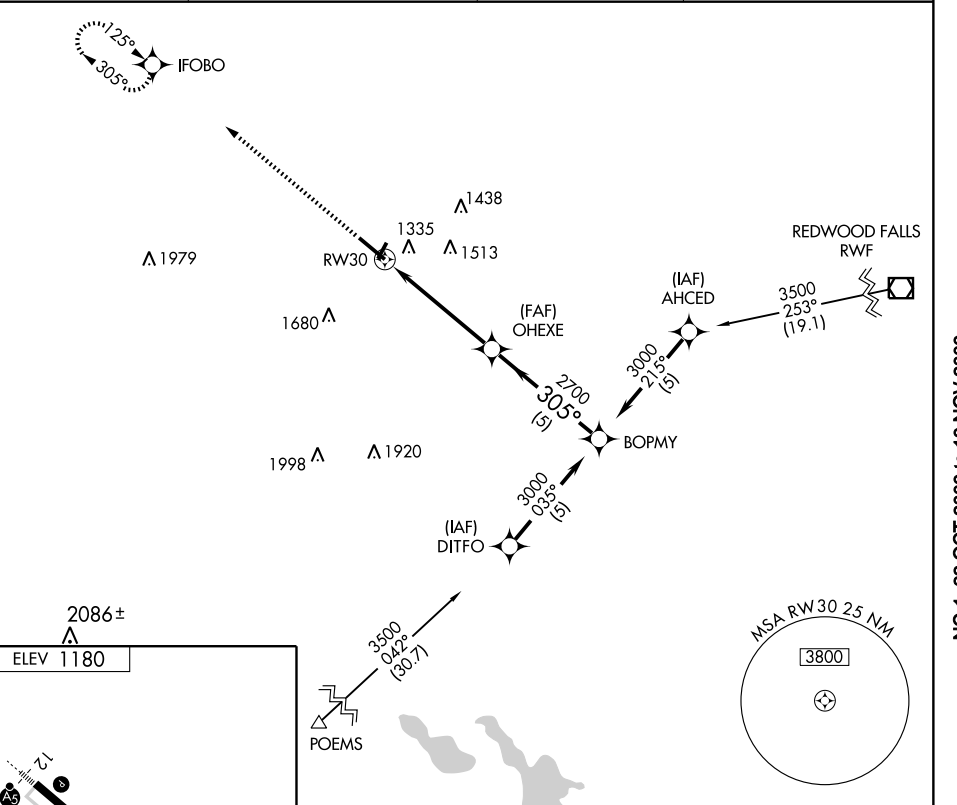
APP CRS	Rwy Idg	7220
305°	TDZE	1180
	Apt Elev	1180

▼

▲ NA

MISSED APPROACH: Climb to 3000 direct IFOBO WP and hold.

AWOS-3 111.0	MINNEAPOLIS CENTER 127.1 290.2	GCO 121.725	UNICOM 122.8 (CTAF) 0
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HIRL Rwy 12-30 0  
REIL Rwy 2-20 and 30 0  
MIRL Rwy 2-20 0

CATEGORY	A			B		C		D	
	1580-1			400 (400-1)		1580-1 ¼		400 (400-1 ¼)	
CIRCLING	1640-1			460 (500-1)		1640-1 ½		1740-2	
						460 (500-1 ½)		560 (600-2)	

NC-1: 22 OCT 2009 to 19 NOV 2009

ADF required.

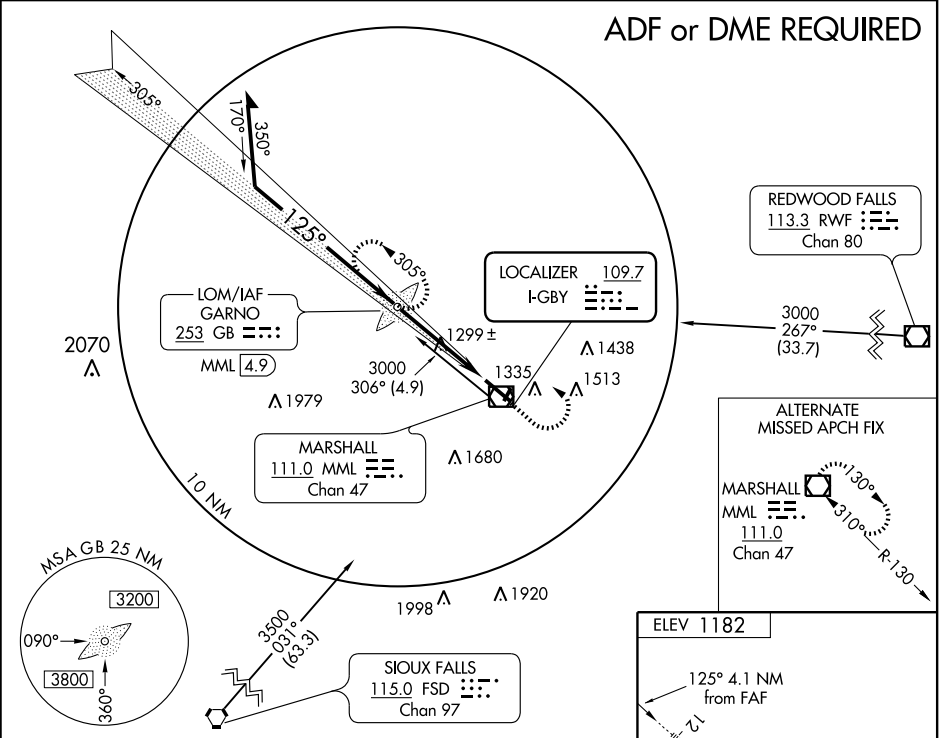
When local altimeter setting not received, use Tracy Muni altimeter setting and increase all DAs/MDAs 60 feet and S-LOC 12 Cats C/D visibility ¼ mile.

For inoperative MALSRS when using Tracy Muni altimeter setting, increase S-ILS 12 visibility to 1 mile all Cats.

MALSRS

MISSED APPROACH: Climb to 2000 then climbing left turn to 3000 direct GARNO LOM/MML 4.9 DME and hold.

AWOS-3 111.0	MINNEAPOLIS CENTER 127.1 290.2	GCO 121.725	UNICOM 122.8 (CTAF) 1
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Remain within 10 NM				
GARNO LOM MML 4.9 6000				
2000 3000 GB 253				
VGS1 and ILS glidepath not coincident				
3000 125° 2600 4.1 NM MML 0.8				
GS 3.00° TCH 49				
CATEGORY	A	B	C	D
S-ILS 12	1382-½ 200 (200-½)			
S-LOC 12	1560-½ 378 (400-½)			1560-¾ 378 (400-¾)
CIRCLING	1640-1 458 (500-1)		1640-½ 458 (500-½)	1740-2 558 (600-2)

ELEV 1182

HIRL Rwy 12-30 1

REIL Rwys 2-20 and 30 1

MIRL Rwy 2-20 1

FAF to MAP 4.1 NM

Knots	60	90	120	150	180
Min:Sec	4:06	2:44	2:03	1:38	1:22

WAAS CH <b>82106</b> <b>W12A</b>	APP CRS <b>125°</b>	Rwy Idg <b>7220</b> TDZE <b>1182</b> Apt Elev <b>1182</b>
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MARSHALL/  
SOUTHWEST MINNESOTA RGNL MARSHALL/RYAN FIELD (MML)

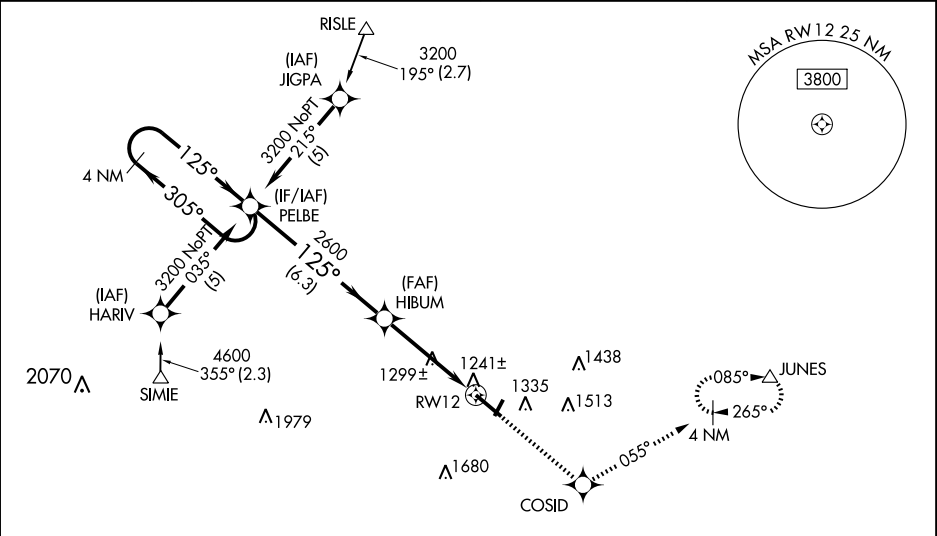
# RNAV (GPS) RWY 12





**T** DME/DME RNP-0.3 NA.  
**A** When local altimeter setting not received, use Tracy Muni altimeter setting and increase all DAs/MDAs 60 feet and LNAV Cat. C visibility ¼ mile.  
**W** VDP and Baro-VNAV NA when using Tracy Muni altimeter setting.  
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (114°F).  
For inoperative MALSR when using Tracy Muni altimeter setting, increase LPV visibility to 1 mile all Cats.  
For inoperative MALSR, increase LNAV Cat. D visibility to 1 ¼ mile.

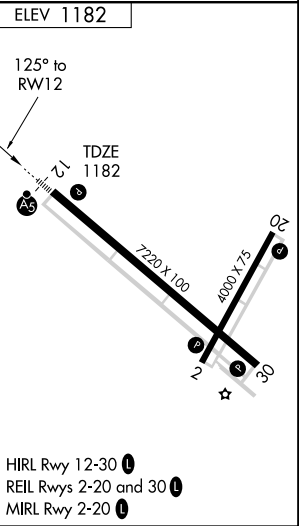


MISSED APPROACH: Climb to 4600, direct COSID and via 055° track to JUNES and hold, continue climb-in-hold to 4600.

AWOS-3 <b>111.0</b>	MINNEAPOLIS CENTER <b>127.1 290.2</b>	GCO <b>121.725</b>	UNICOM <b>122.8 (CTAF) L</b>
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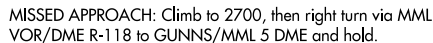
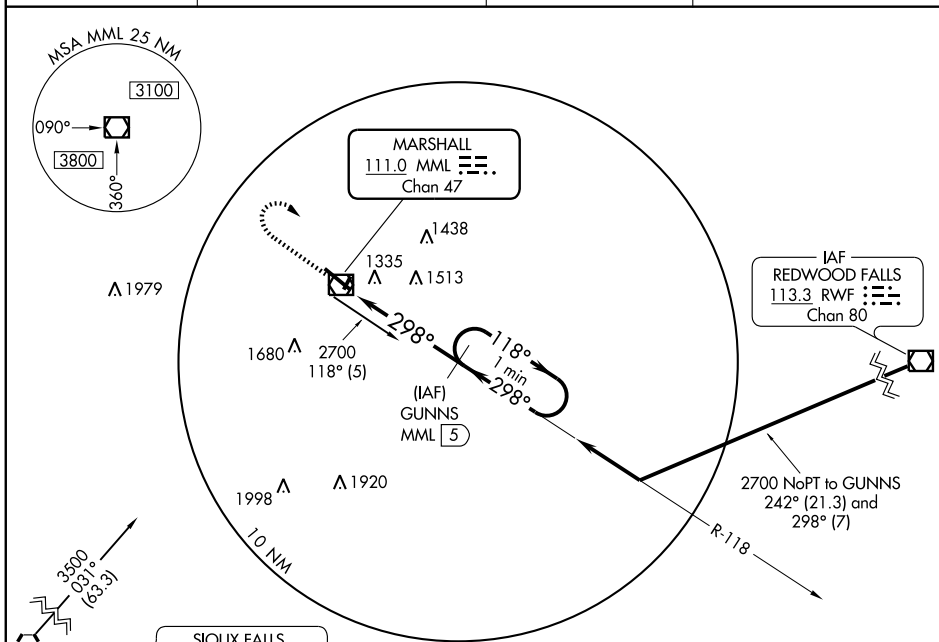
<div>4 NM Holding Pattern</div>				<div>VGSI and RNAV glidepath not coincident</div>		<div>4600</div> <div></div>	<div>COSID</div> <div></div>	<div>055° track</div>	<div>JUNES</div> <div></div>
				<div>PELBE</div>	<div>HIBUM</div>	<div>*LNAV only</div>			
<div>3200</div> <div>← 305°</div> <div>125° →</div>				<div>125°</div>		<div>*1.1 NM to RW12</div> <div></div>			
<div>GS 3.00° TCH 49</div>				<div>2600</div>					
				<div>6.3 NM</div>		<div>3.1 NM</div>		<div>1.1 NM</div>	
CATEGORY	A	B	C	D					
LPV DA	1432-½ 250 (300-½)								
LNAV/ VNAV DA	1511-¾ 329 (400-¾)								
LNAV MDA	1560-½ 378 (400-½)				1560-1 378 (400-1)				
CIRCLING	1640-1 458 (500-1)		1640-1½ 458 (500-½)		1740-2 558 (600-2)				



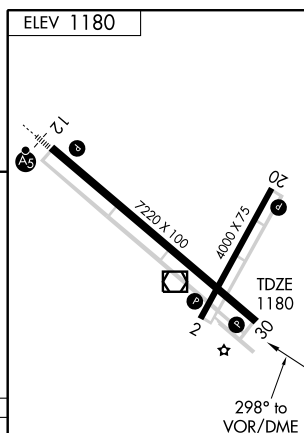
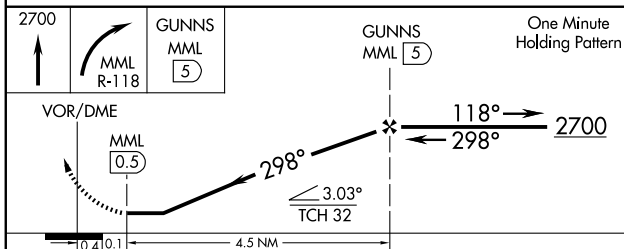
HIRL Rwy 12-30 **L**  
REIL Rws 2-20 and 30 **L**  
MIRL Rwy 2-20 **L**

MARSHALL/  
SOUTHWI

SOUTHWEST MINNESOTA RGNL MARSHALL/RYAN FIELD (MML)

UNICOM  
122.8 (CTAF) **L**

NC-1. 22 OCT 2009 to 19 NOV 2009



CATEGORY	A	B	C	D
S-30	1600-1 420 (500-1)		1600-1¼ 420 (500-1¼)	
CIRCLING	1640-1 460 (500-1)		1640-1½ 460 (500-1½)	1740-2 560 (600-2)

HIRL Rwy 12-30 **L**

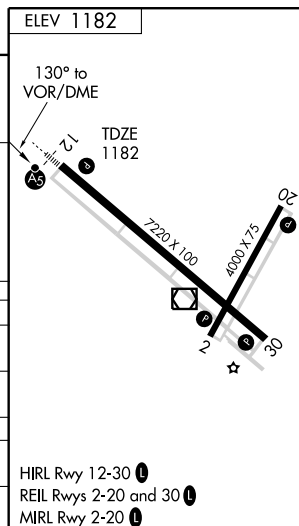
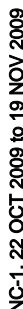
REIL Rwy 2-20 and 30 L

MIRL Rwy 2-20 **L**



MARSHALL/  
SOUTHWI

**MISSED APPROACH:** Climb to 2000, then climbing left turn to 2800 direct MML VOR/DME and hold.

UNICOM  
122.8 (CTAF) **L**

CATEGORY	A	B	C	D
S-12	1760-½	578 (600-½)	1760-1 578 (600-1)	1760-1¼ 578 (600-1¼)
CIRCLING	1760-1	578 (600-1)	1760-1½ 578 (600-1½)	1760-2 578 (600-2)
CEGUL FIX MINIMUMS				
S-12	1560-½ 378 (400-½)			1560-1 378 (400-1)
CIRCLING	1640-1	458 (500-1)	1640-1½ 458 (500-1½)	1740-2 558 (600-2)

APP CRS <b>139°</b>	Rwy Idg TDZE Apt Elev	<b>3400</b> <b>1228</b> <b>1228</b>
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## RNAV (GPS) RWY 14

MC GREGOR/ISEDOR IVERSON (HZX)

A NA	<p>DME/DME RNP-0.3 NA.</p> <p>If local altimeter setting not received, use Aitkin altimeter setting and increase all MDAs 40 feet.</p> <p>Procedure NA at night.</p>
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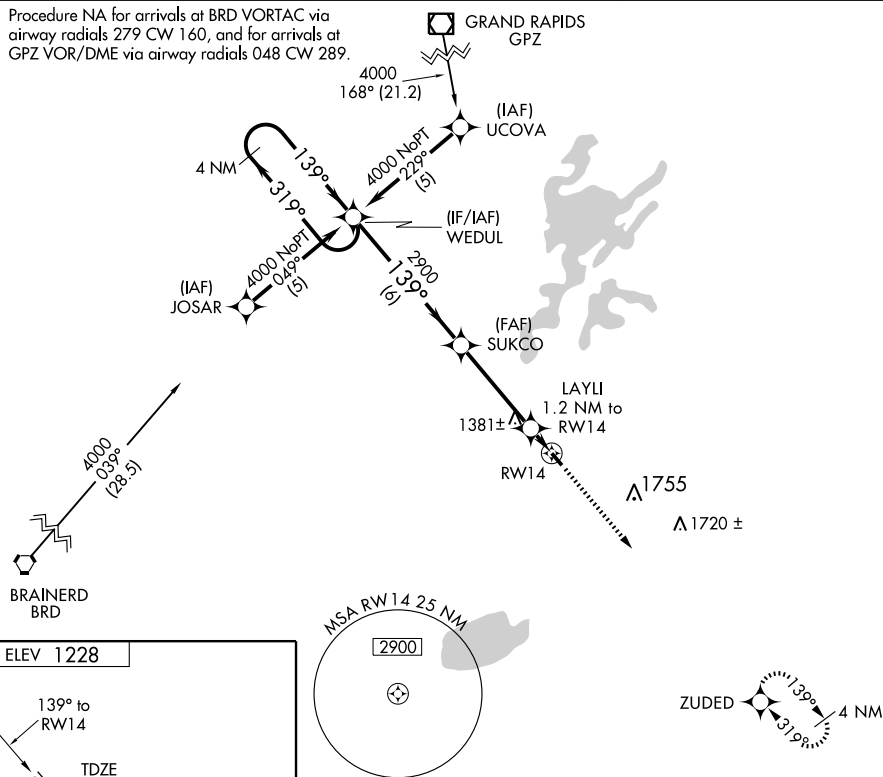
**MISSED APPROACH:** Climb to 4000 direct ZUDED and hold.

ASOS-3  
**119,575**

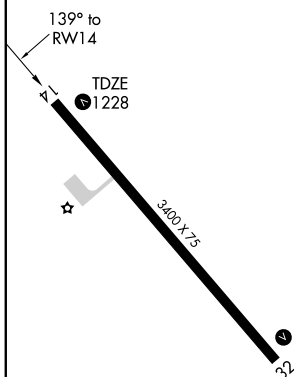
MINNEAPOLIS CENTER  
127.9 281.45

CTAF  
122.9 L

Procedure NA for arrivals at BRD VORTAC via  
airway radials 279 CW 160, and for arrivals at  
GPZ VOR/DME via airway radials 048 CW 289.



ELEV 1228

MIRL Rwy 14-32 **L**[illegible]

APP CRS	Rwy Idg	3400
319°	TDZE	1226
	Apt Elev	1228

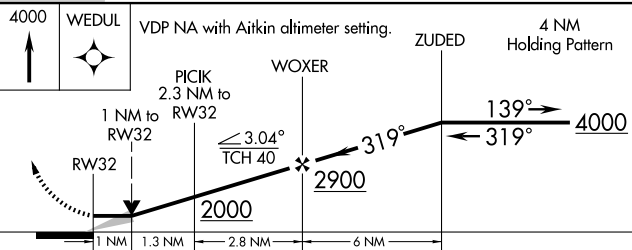
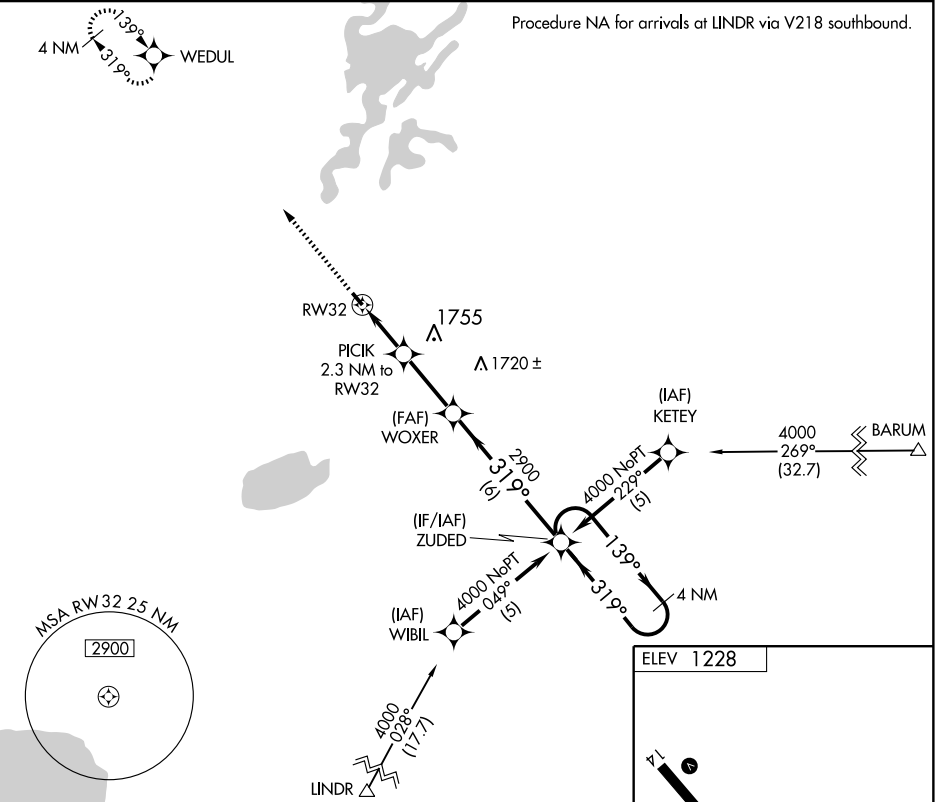
# RNAV (GPS) RWY 32

MC GREGOR/ ISEDOR IVERSON (HZX)

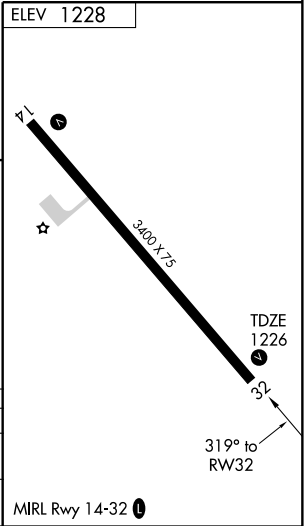
**NA** DME/DME RNP- 0.3 NA.  
If local altimeter setting not received, use Aitkin  
altimeter setting and increase all MDAs 40 feet.  
Procedure NA at night.

MISSED APPROACH: Climb to 4000 direct WEDUL and hold.

ASOS-3 119.575	MINNEAPOLIS CENTER 127.9 281.45	CTAF 122.9
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CATEGORY	A	B	C	D
LNAV MDA	1600-1	374 (400-1)	NA	NA
CIRCLING	1660-1 432 (500-1)	1680-1 452 (500-1)	NA	NA



## AGUDE ONE ARRIVAL

ST-263 (FAA)

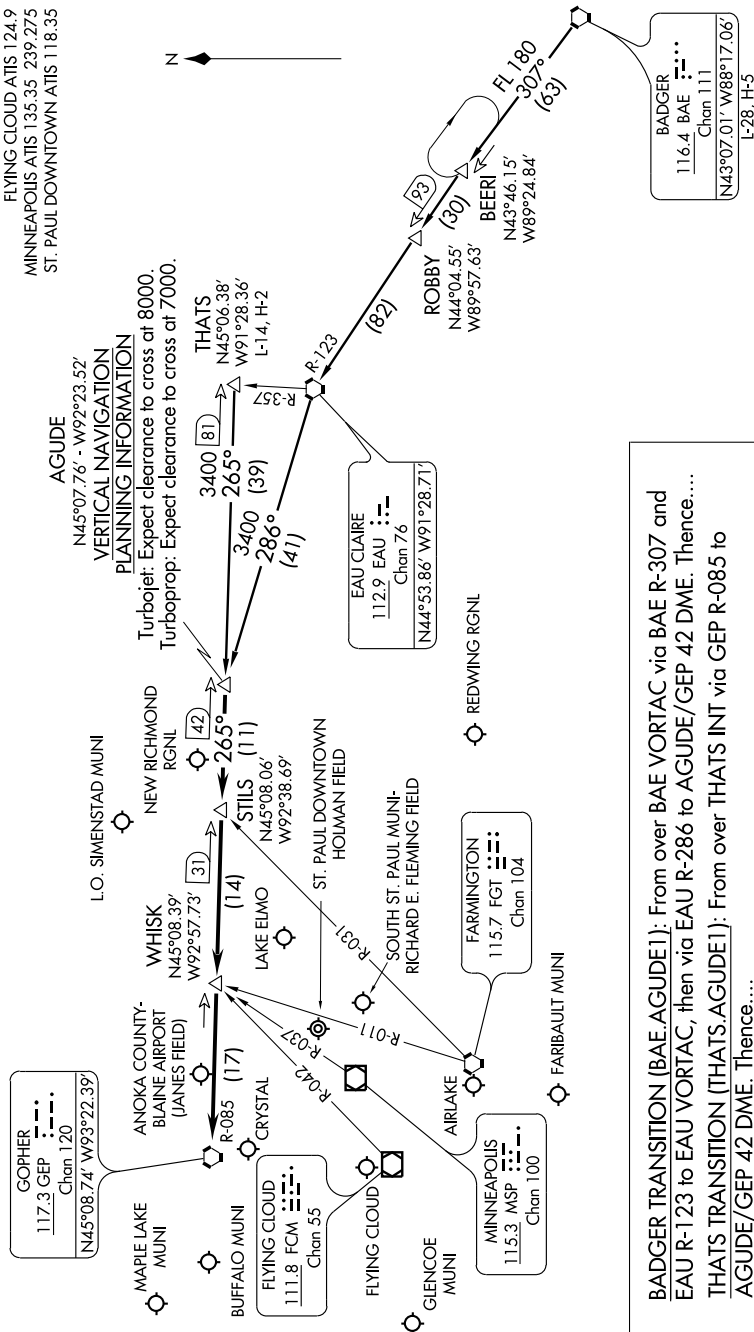
MINNEAPOLIS-ST. PAUL, MINNESOTA

MINNEAPOLIS APP CON  
126.95 335.5  
ANOKA COUNTY ATIS 120.625  
CRYSTAL ATIS 124.475  
FLYING CLOUD ATIS 124.9  
MINNEAPOLIS ATIS 135.35 239.275  
ST. PAUL DOWNTOWN ATIS 118.35

## AGUDE

N45°07.76' - W92°23.52'  
VERTICAL NAVIGATION  
PLANNING INFORMATION

Turbopjet: Expect clearance to cross at 8000.  
Turboprop: Expect clearance to cross at 7000.



BADGER TRANSITION [BAE AGUDE1]: From over BAE VORTAC via BAE R-307 and EAU R-123 to EAU VORTAC, then via EAU R-286 to AGUDE/GEF 42 DME. Thence....  
THATS TRANSITION [THATS.AGUDE1]: From over THATS INT via GEP R-085 to AGUDE/GEF 42 DME. Thence....

....From over AGUDE/GEF 42 DME via the GEP R-085 to GEP VORTAC, then expect radar vector to final approach course.

NOTE: DME and RADAR required.

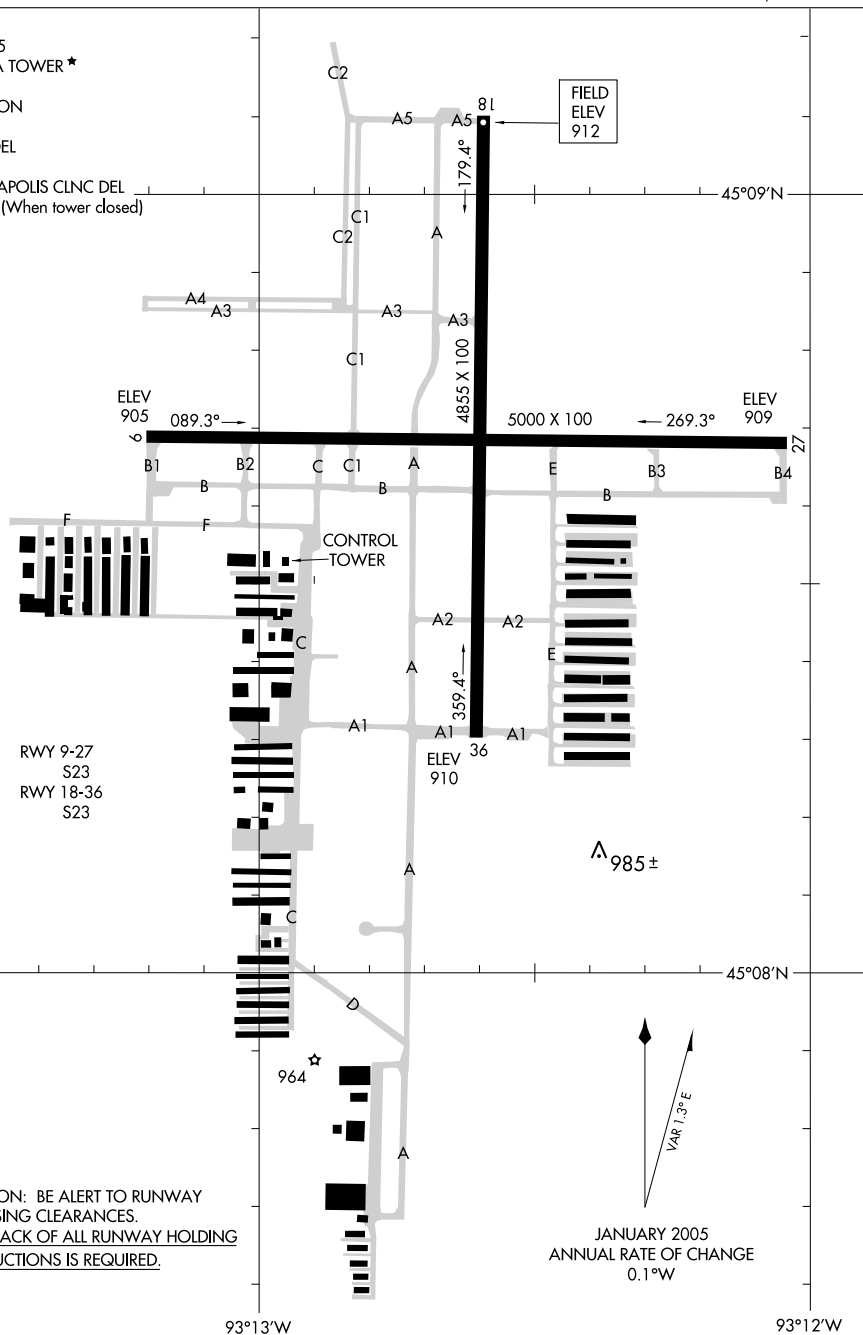
NOTE: Chart not to scale.

## AIRPORT DIAGRAM

AL-5202 (FAA)

MINNEAPOLIS, MINNESOTA

ATIS  
 120.625  
 ANOKA TOWER ★  
 132.4  
 GND CON  
 121.85  
 CLNC DEL  
 121.3  
 MINNEAPOLIS CLNC DEL  
 121.85 (When tower closed)



NC-1, 22 OCT 2009 to 19 NOV 2009

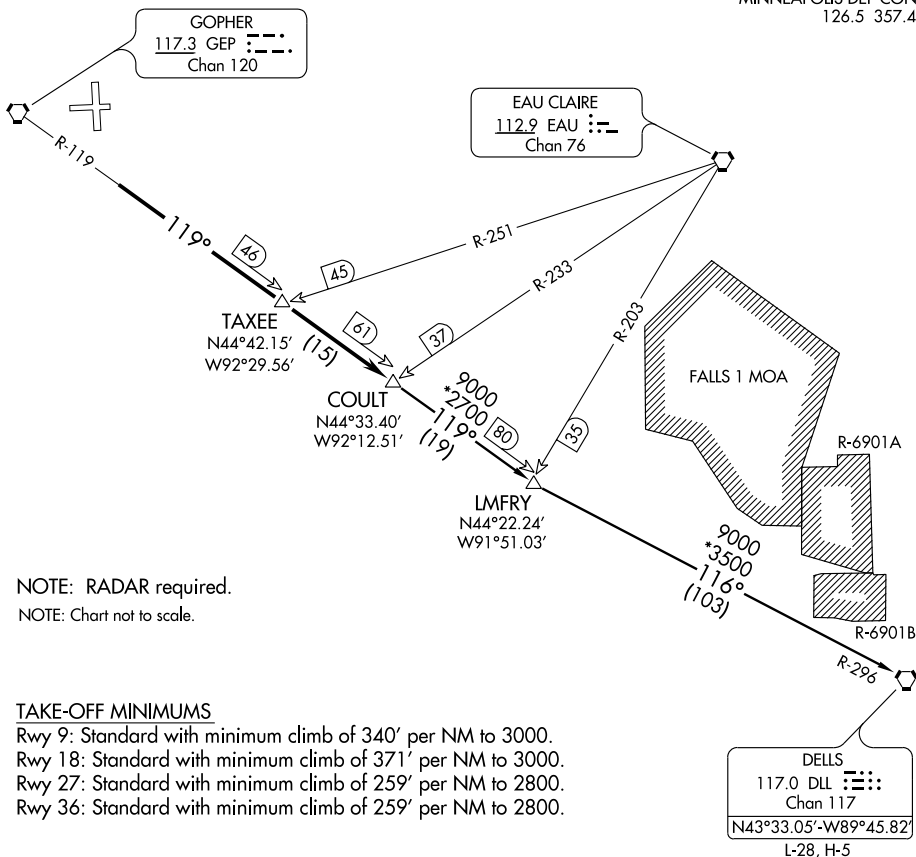
ATIS 120.625

CLNC DEL

121.3

MINNEAPOLIS DEP CON

126.5 357.4



#### TAKE-OFF OBSTACLE NOTES

- RWY 9: Multiple trees 821' from DER, 619' right of centerline, up to 51' AGL/961' MSL.  
Tank 1.1 NM from DER, 1280' right of centerline, 170' AGL/1082' MSL.
- RWY 27: Multiple trees 559' from DER, 404' left of centerline, up to 50' AGL/946' MSL.  
Multiple trees 480' from DER, 394' right of centerline, up to 26' AGL/922' MSL.
- RWY 36: Multiple trees 191' from DER, 495' right of centerline, up to 78' AGL/971' MSL.  
Multiple trees 1458' from DER, 53' left of centerline, up to 59' AGL/958' MSL.

#### DEPARTURE ROUTE DESCRIPTION

TAKE-OFF ALL RUNWAYS: Fly assigned heading and altitude for radar vectors to intercept GEP R-119 to COULT INT/GEP 61 DME, thence via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

DELLS TRANSITION (COULT2:DLL): From over COULT INT via GEP R-119 and DLL R-296 to DLL VORTAC.

ATIS 120.625  
 CLNC DEL  
 121.3  
 MINNEAPOLIS DEP CON  
 126.5 357.4

# **TAKE-OFF MINIMUMS**

Rwy 9: Standard with minimum climb of 340' per NM to 3000.  
 Rwy 18: Standard with minimum climb of 371' per NM to 3000.  
 Rwy 27: Standard with minimum climb of 259' per NM to 2800.  
 Rwy 36: Standard with minimum climb of 259' per NM to 2800.

**ABERDEEN**  
 113.0 ABR  
 Chan 77  
 N45°25.04'-W98°22.12'  
 L-14, H-2

R-088

60

107

10000

3800

10000

(MIRA)

R-095

271°

(167)

**DARWIN**  
 109.0 DWN  
 Chan 27  
 N45°05.25'-W94°27.23'

INUNE

N45°01.01'

W93°59.54'

R-172

(32)

# **TAKE-OFF OBSTACLE NOTES**

**RWY 9:** Multiple trees 821' from DER, 619' right of centerline, up to 51' AGL/961' MSL.  
 Tank 1.1 NM from DER, 1280' right of centerline, 170' AGL/1082' MSL.  
**RWY 27:** Multiple trees 559' from DER, 404' left of centerline, up to 50' AGL/946' MSL.  
 Multiple trees 480' from DER, 394' right of centerline, up to 26' AGL/922' MSL.  
**RWY 36:** Multiple trees 191' from DER, 495' right of centerline, up to 78' AGL/971' MSL.  
 Multiple trees 1458' from DER, 53' left of centerline, up to 59' AGL/958' MSL.



# **DEPARTURE ROUTE DESCRIPTION**

**TAKE-OFF ALL RUNWAYS:** Fly assigned heading and altitude for radar vectors to MSP VOR/DME then via MSP R-281 and DWN R-095 to DWN VORTAC, thence via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

**ABERDEEN TRANSITION (DWN2.ABR):** From over DWN VORTAC via DWN R-271 and ABR R-088 to ABR VOR/DME.

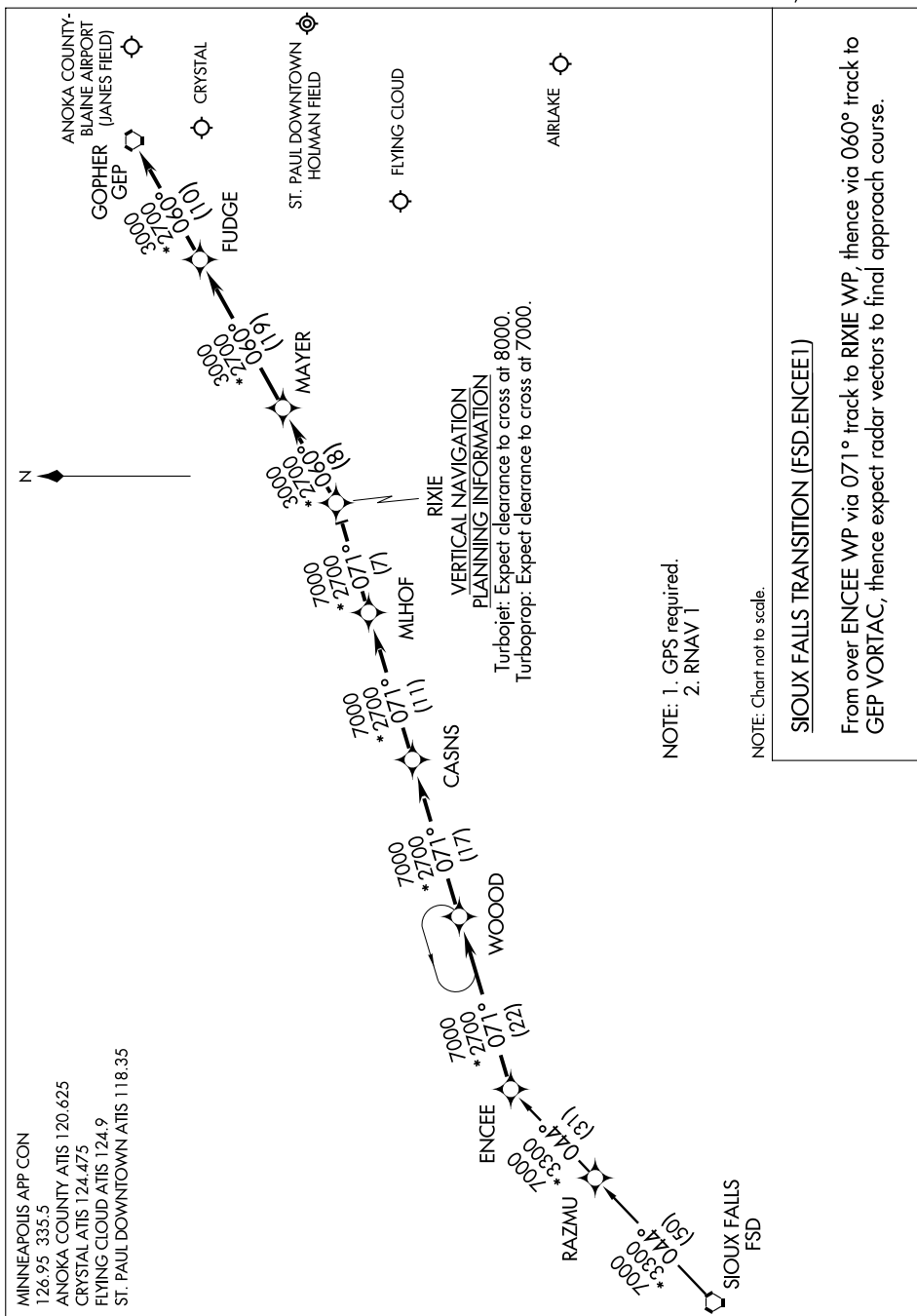


**ST. CLOUD**  
 112.1 STC  
 Chan 58

**MINNEAPOLIS**  
 115.3 MSP  
 Chan 100  
 N44°53.79' - W93°14.19'

NOTE: RADAR required.

NOTE: Chart not to scale.

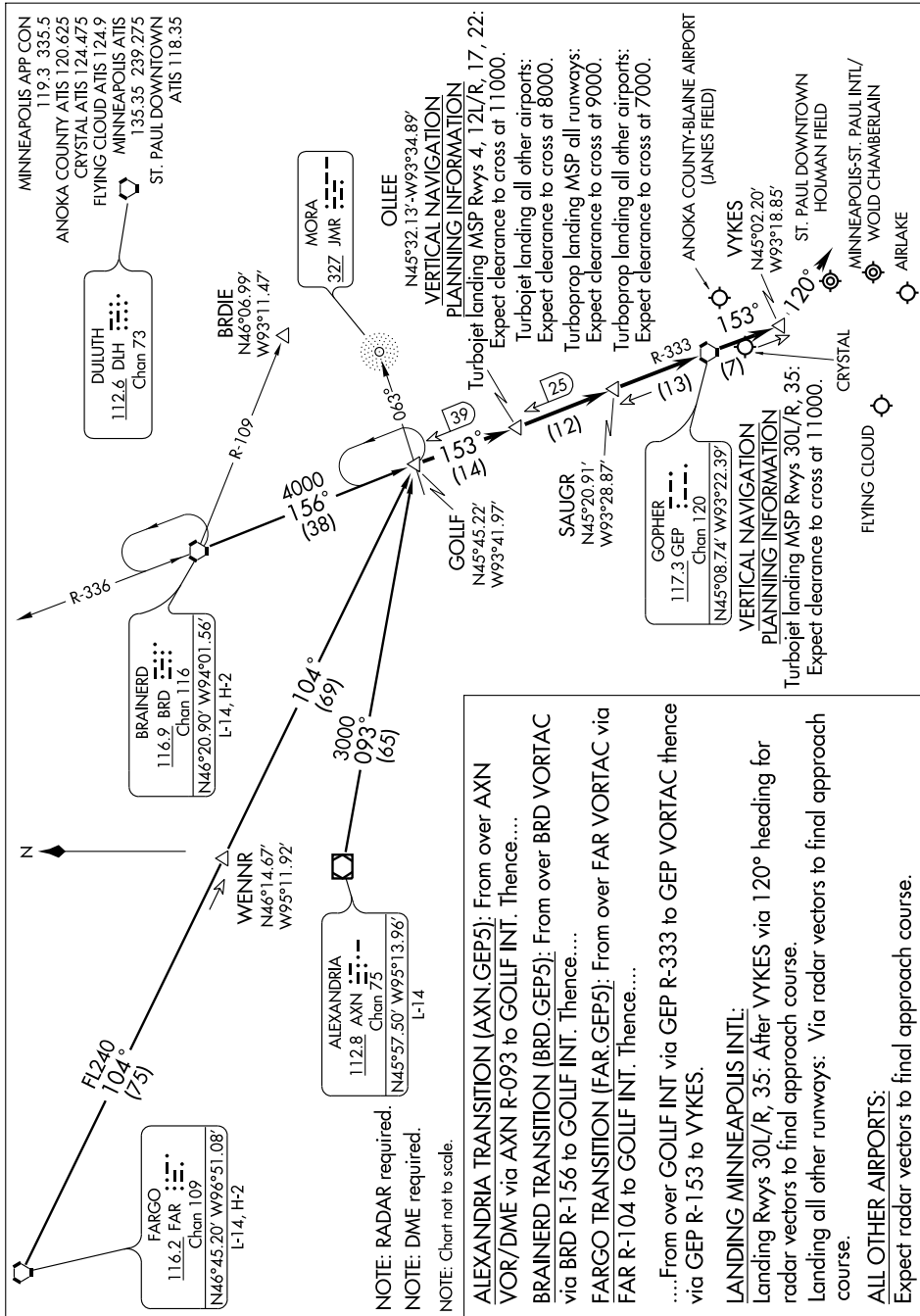




## GOPHER FIVE ARRIVAL

ST-264 (FAA)

MINNEAPOLIS, MINNESOTA

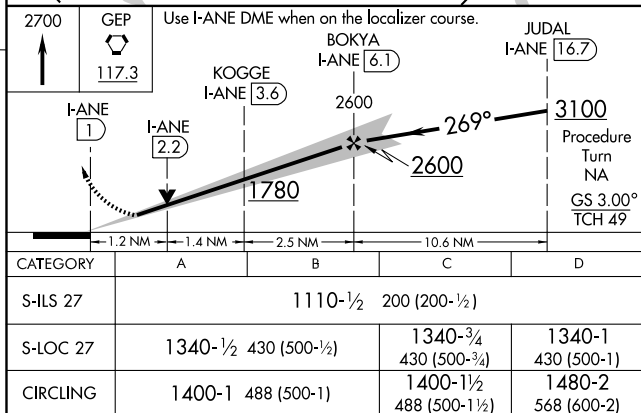


MINNEAPOLIS/ ILS or LOC/DME RWY 27  
ANOKA COUNTY-BLAINE AIRPORT (JANES FIELD) (ANE)

MALSR

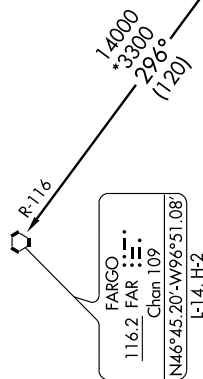
**MISSED APPROACH:** Climb to 2700  
direct GEP VORTAC and hold.

Procedure NA for arrivals at BLAYN via V13 northbound, and arrivals at STILS via V78 eastbound.



# TAKE-OFF MINIMUMS

Rwy 9: Standard with minimum climb of 340' per NM to 3000.  
 Rwy 18: Standard with minimum climb of 371' per NM to 3000.  
 Rwy 27: Standard with minimum climb of 259' per NM to 2800.  
 Rwy 36: Standard with minimum climb of 259' per NM to 2800.



N



## TAKE-OFF OBSTACLE NOTES

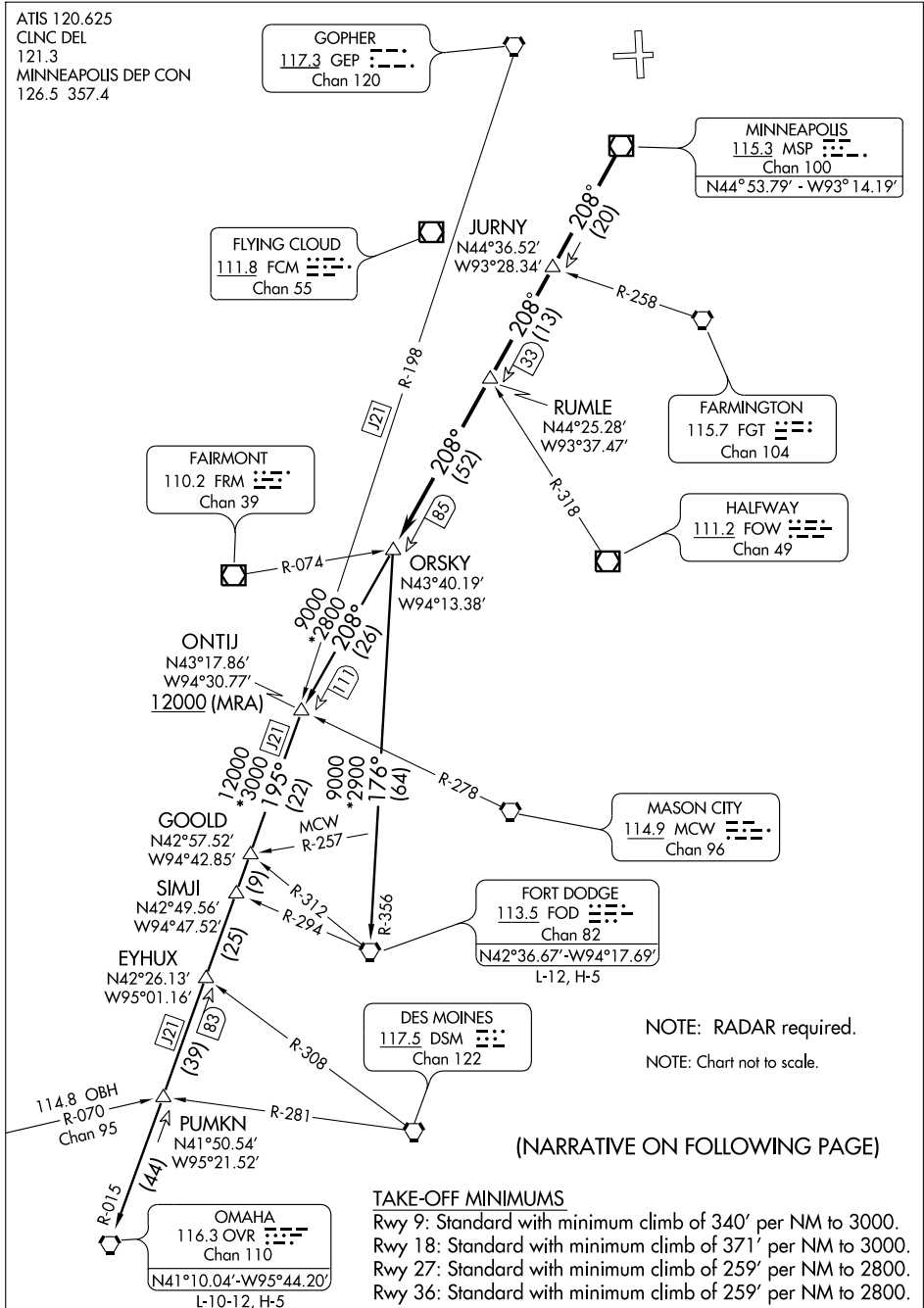
RWY 9: Multiple trees 821' from DER, 619' right of centerline, up to 51' AGL/961' MSL.  
 Tank 1.1 NM from DER, 1280' right of centerline, 170' AGL/1082' MSL.  
 RWY 27: Multiple trees 559' from DER, 404' left of centerline, up to 50' AGL/946' MSL.  
 Multiple trees 480' from DER, 394' right of centerline, up to 26' AGL/922' MSL.  
 RWY 36: Multiple trees 191' from DER, 495' right of centerline, up to 78' AGL/971' MSL.  
 Multiple trees 1458' from DER, 53' left of centerline, up to 59' AGL/958' MSL.

## DEPARTURE ROUTE DESCRIPTION

TAKE-OFF ALL RUNWAYS: Fly assigned heading and altitude for radar vectors to GEP VORTAC then via GEP R-293 to KBREW INT/GEP 55 DME, thence via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

FARGO TRANSITION (KBREW2.FAR): From over GEP VORTAC via FAR R-116 to FAR VORTAC.

NOTE: RADAR required.  
 NOTE: Chart not to scale.





## DEPARTURE ROUTE DESCRIPTION

TAKE-OFF ALL RUNWAYS: Fly assigned heading and altitude for radar vectors to MSP VOR/DME then via MSP R-208 to ORSKY INT/MSP 85 DME, thence via transition or assigned route. Expect clearance to filed altitude/flight level 10 minutes after departure.

FORT DODGE TRANSITION (ORSKY3.FOD): From over ORSKY INT via FOD R-356 to FOD VORTAC.

OMAHA TRANSITION (ORSKY3.OVR): From over ORSKY INT via MSP R-208 to ONTIJ INT then via OVR R-015 to OVR VORTAC.

## TAKE-OFF OBSTACLE NOTES

RWY 9: Multiple trees 821' from DER, 619' right of centerline, up to 51' AGL/961' MSL.

Tank 1.1 NM from DER, 1280' right of centerline, 170' AGL/1082' MSL.

RWY 27: Multiple trees 559' from DER, 404' left of centerline, up to 50' AGL/946' MSL.

Multiple trees 480' from DER, 394' right of centerline, up to 26' AGL/922' MSL.

RWY 36: Multiple trees 191' from DER, 495' right of centerline, up to 78' AGL/971' MSL.

Multiple trees 1458' from DER, 53' left of centerline, up to 59' AGL/958' MSL.

WAAS CH <b>82312</b> <b>W09A</b>	APP CRS <b>089°</b>	Rwy Idg TDZE Apt Elev <b>5000</b> <b>910</b> <b>912</b>
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MINNEAPOLIS/  
ANOKA COUNTY-BLAINE AIRPORT (JANES FIELD) (A.N.E.)

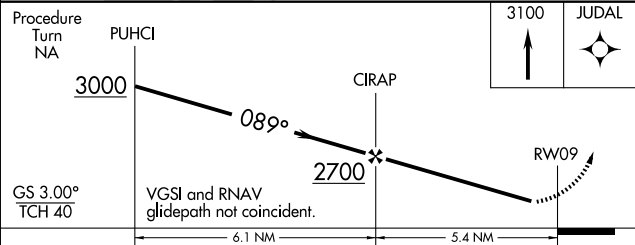
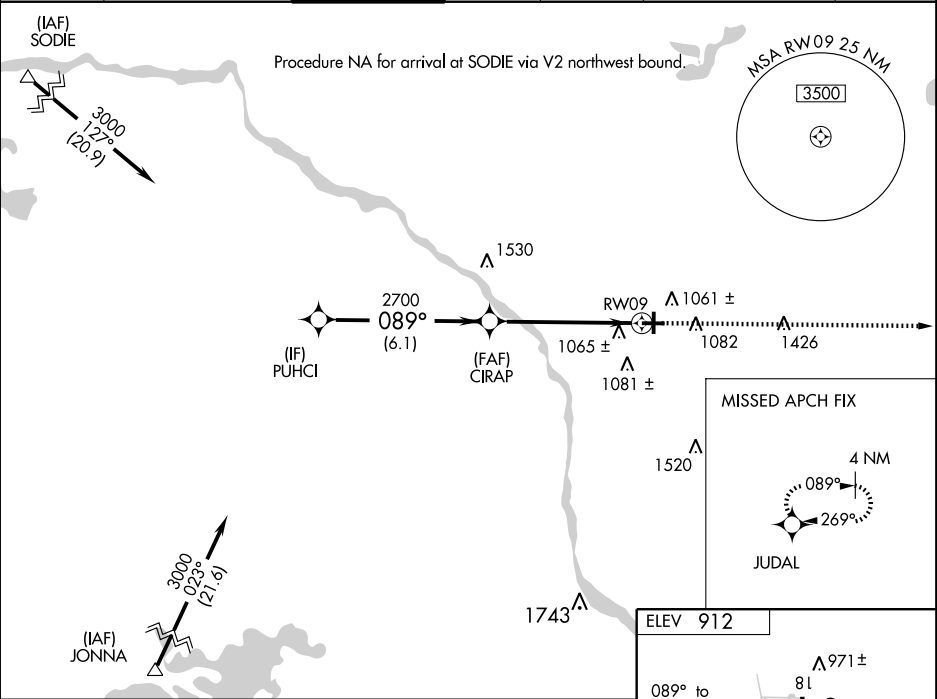
# RNAV (GPS) RWY 9

**▼** Baro-VNAV NA when using Crystal altimeter setting.

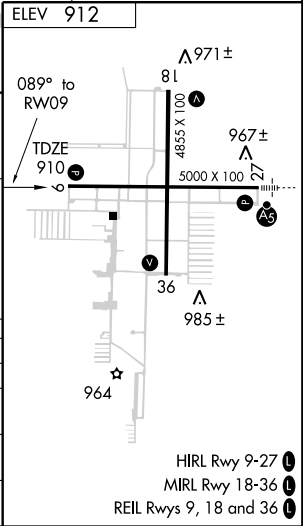
**▲** For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 47°C (116°F). DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA. When local altimeter setting not received, use Crystal altimeter setting and increase all DA 25 feet, all MDA 40 feet, increase LNAV/VNAV all Cats visibility ¼ mile, LNAV Cat D ½ mile.

MISSED APPROACH: Climb to 3100 direct JUDAL and hold.

ATIS <b>120.625</b>	MINNEAPOLIS APP CON <b>126.5</b>	ANOKA TOWER* <b>132.4</b> (CTAF) <b>0</b>	GND CON <b>121.85</b>	CLNC DEL <b>121.3</b>	MINNEAPOLIS CLNC DEL <b>121.85</b> (When tower closed)	UNICOM <b>122.95</b>
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CATEGORY	A	B	C	D
LPV DA	1 225-1 ¼		315 (400-1 ¼)	
LNAV/ VNAV	1 352-1 ½		442 (500-1 ½)	
LNAV MDA	1 320-1 410 (500-1)		1 320-1 ¼ 410 (500-1 ¼)	
CIRCLING	1 400-1 488 (500-1)		1 400-1 ½ 488 (500-1 ½)	1 480-2 568 (600-2)



▼

DME/DME RNP-0.3 NA.

Visibility reduction by helicopters NA.

▲

When local altimeter setting not received, use Crystal altimeter setting and increase all MDA 40 feet, increase LNAV Cat C visibility ¼ mile.

MISSED APPROACH: Climbing left turn to 2600 direct CEXUM and hold.

ATIS 120.625	MINNEAPOLIS APP CON 126.5	ANOKA TOWER★ 132.4 (CTAF) 0	GND CON 121.85	CLNC DEL 121.3	MINNEAPOLIS CLNC DEL 121.85 (When tower closed)	UNICOM 122.95
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4 NM Holding Pattern				
CEXUM				
DOZXU				
RWY 18				
2600 ← 359° / 179° →				
2100				
3.00° TCH 50				
6.1 NM      3.6 NM				
CATEGORY	A	B	C	D
LNAV MDA	1380-1	468 (500-1)	1380-1¼ 468 (500-1¼)	1380-1½ 468 (500-1½)
CIRCLING	1400-1	488 (500-1)	1400-1½ 488 (500-1½)	1480-2 568 (600-2)

NC-1, 22 OCT 2009 to 19 NOV 2009

WAAS CH <b>78300</b> <b>W27A</b>	APP CRS <b>269°</b>	Rwy Idg TDZE <b>5000</b> <b>910</b> Apt Elev <b>912</b>
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# RNAV (GPS) RWY 27

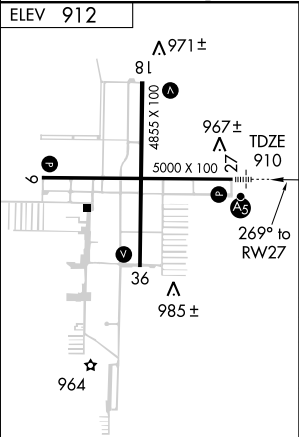
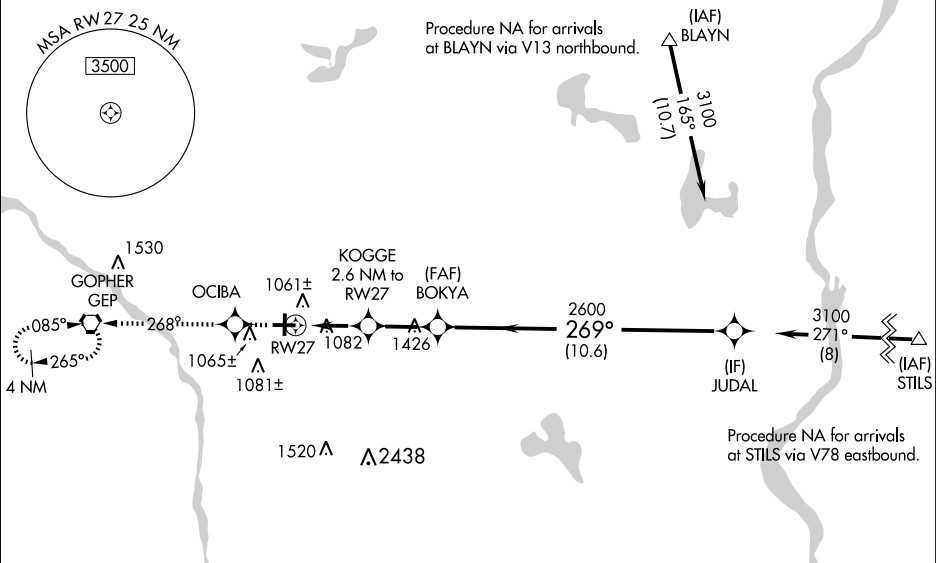
MINNEAPOLIS/ ANOKA COUNTY-BLAINE AIRPORT (JANES FIELD) (A.N.E.)

**⚠** Baro-VNAV and VDP NA when using Crystal altimeter setting.  
**⚠** If local altimeter setting not received, use Crystal altimeter setting and increase all DAs/MDAs 40 feet.  
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 47°C (116°F).  
DME/DME RNP-0.3 NA.  
For inoperative MALSR, increase LNAV Cat C visibility to 1¼.



**MISSED APPROACH:** Climb to 2700 direct OCIBA and via 268° track to GEP VORTAC and hold.

ATIS <b>120.625</b>	MINNEAPOLIS APP CON <b>126.5</b>	ANOKA TOWER★ <b>132.4</b> (CTAF) <b>0</b>	GND CON <b>121.85</b>	CLNC DEL <b>121.3</b>	MINNEAPOLIS CLNC DEL <b>121.85</b> (When tower closed)	UNICOM <b>122.95</b>
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HIRL Rwy 9-27 **0**  
MIRL Rwy 18-36 **0**  
REIL Rwy 9, 18, and 36 **0**

2700

↑

OCIBA

✱

268° track

GEP

⬡

\*LNAV only

KOGGE  
2.6 NM to RW27

\*1.2 NM to RW27

BOKYA

JUDAL

Procedure Turn NA

3100

GS 3.00°  
TCH 49°

269°

2600

1780\*

1.2 NM

1.4 NM

2.5 NM

10.6 NM

CATEGORY	A	B	C	D
LPV DA	1160-½ 250 (300-½)			
LNAV/VNAV DA	1371-1 461 (500-1)			
LNAV MDA	1340-½ 430 (500-½)			1340-1 430 (500-1)
CIRCLING	1400-1 488 (500-1)		1400-1½ 488 (500-1½)	1480-2 568 (600-2)

NC-1: 22 OCT 2009 to 19 NOV 2009

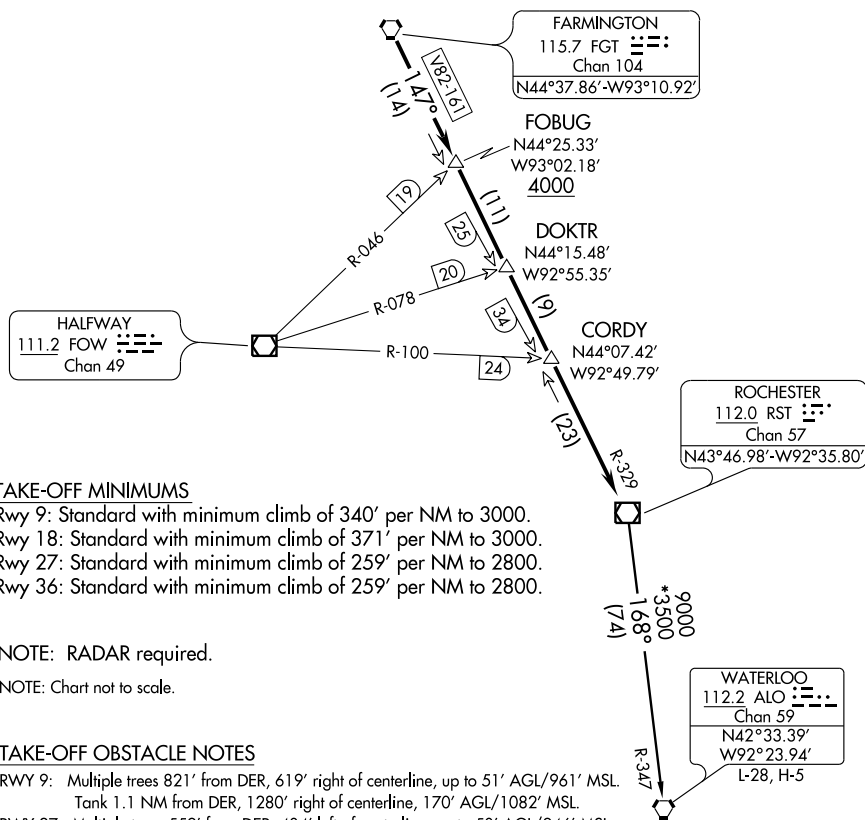


# ROCHESTER THREE DEPARTURE

SL-5202 (FAA)

MINNEAPOLIS, MINNESOTA

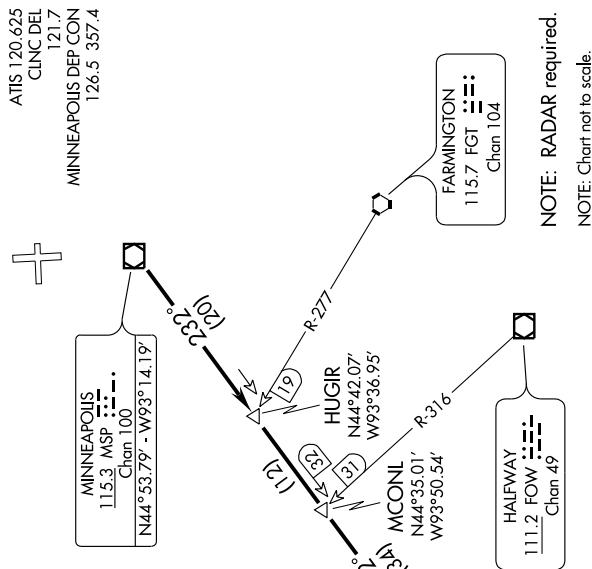
ATIS 120.625  
CLNC DEL  
121.3  
MINNEAPOLIS DEP CON  
126.5 357.4



## DEPARTURE ROUTE DESCRIPTION

**TAKE-OFF ALL RUNWAYS:** Fly assigned heading and altitude for radar vectors to FGT VORTAC then via FGT R-147 and RST R-329 to RST VOR/DME. Cross FOBUG INT/FGT 14 DME at or above 4000, thence via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

**WATERLOO TRANSITION (RST3.ALO):** From over RST VOR/DME via RST R-168 and ALO R-347 to ALO VORTAC.



**DEPARTURE ROUTE DESCRIPTION**

**TAKE-OFF ALL RUNWAYS:** Fly assigned heading and altitude for radar vectors to MSP VOR/DME then via MSP R-232 to SCHEP INT/ MSP 66 DME, thence via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

**O'NEILL TRANSITION (SCHEP2.ONL):** From over SCHEP INT via OTG R-045 to OTG VOR/DME, then via OTG R-236 and ONL R-052 to ONL VORTAC.

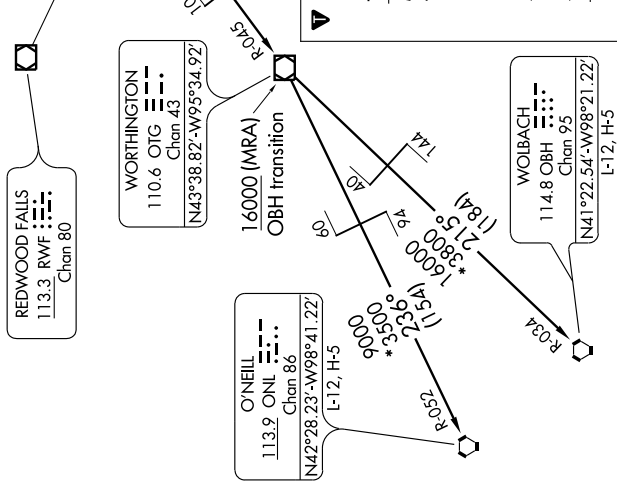
**WOLBACH TRANSITION (SCHEP2.OBH):** From over SCHEP INT via OTG R-045 to OTG VOR/DME then via OTG R-215 and OBH R-034 to OBH VORTAC.

**TAKE-OFF OBSTACLE NOTES**

- RWY 9:** Multiple trees 821' from DER, 619' right of centerline, up to 51' AGL/961' MSL.  
 Tank 1.1 NM from DER, 1280' right of centerline, 170' AGL/1082' MSL.
- RWY 27:** Multiple trees 559' from DER, 404' left of centerline, up to 50' AGL/946' MSL.  
 Multiple trees 480' from DER, 394' right of centerline, up to 26' AGL/922' MSL.
- RWY 36:** Multiple trees 191' from DER, 495' right of centerline, up to 78' AGL/971' MSL.  
 Multiple trees 1458' from DER, 53' left of centerline, up to 59' AGL/958' MSL.

**TAKE-OFF MINIMUMS**

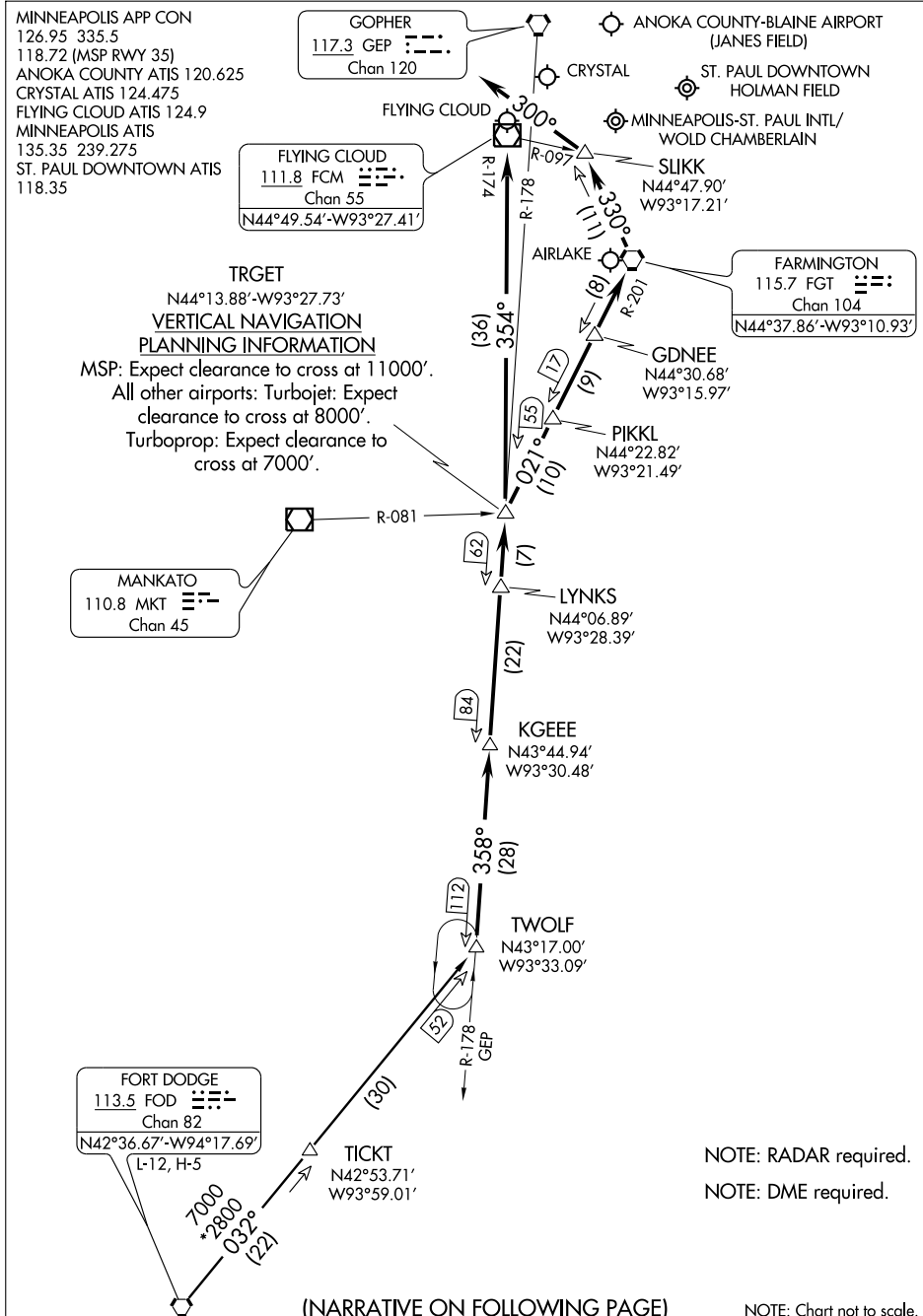
- Rwy 9:** Standard with minimum climb of 340' per NM to 3000.
- Rwy 18:** Standard with minimum climb of 371' per NM to 3000.
- Rwy 27:** Standard with minimum climb of 259' per NM to 2800.
- Rwy 36:** Standard with minimum climb of 259' per NM to 2800.



## TWOLF ONE ARRIVAL

ST-264 (FAA)

MINNEAPOLIS, MINNESOTA



## ARRIVAL DESCRIPTION

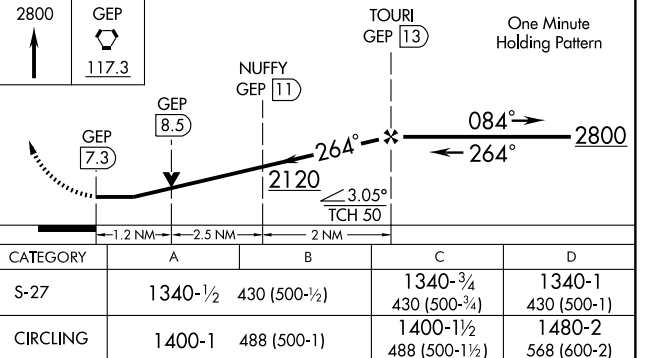
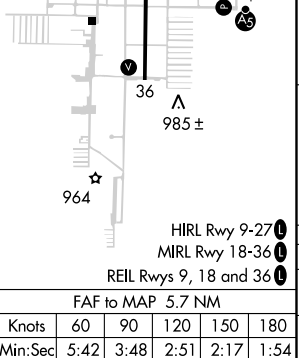
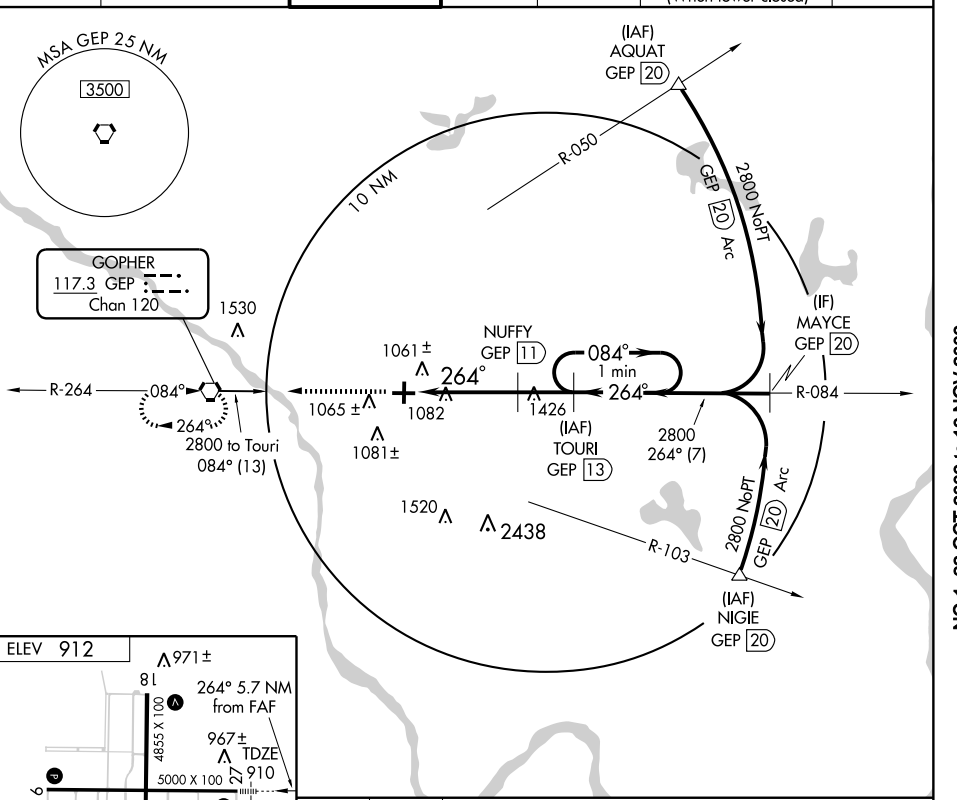
FORT DODGE TRANSITION (FOD.TWOLF1): From over FOD VORTAC via FOD R-032 to TWOLF. Thence....

....From over TWOLF via GEP R-178 to KGEFF, then via GEP R-178 to TRGET INT, then via FGT R-201 to FGT VORTAC. Thence....

LANDING MSP RWYS 12L/R: From over FGT VORTAC via FGT R-330 to SLIKK, thence via 300° heading for radar vectors to final approach course.

LANDING MSP RWYS 30L/R, 4, 22, 17, 35: Via radar vectors to final approach course.

ALL OTHER AIRPORTS: From over TRGET INT via FCM VOR/DME R-174 to FCM VOR/DME then expect radar vectors to final approach course.

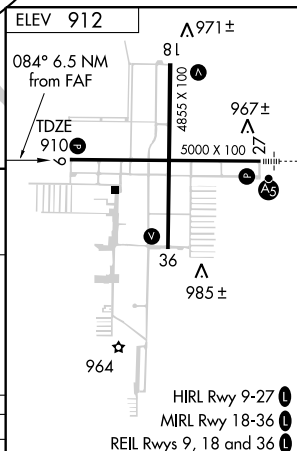


CATEGORY	A	B	C	D
S-27	1340-1/2	430 (500-1/2)	1340-3/4 430 (500-3/4)	1340-1 430 (500-1)
CIRCLING	1400-1	488 (500-1)	1400-1 1/2 488 (500-1 1/2)	1480-2 568 (600-2)

NC-1: 22 OCT 2009 to 19 NOV 2009

**MISSED APPROACH:** Climbing left turn to 3000 direct to GEP VORTAC and hold.

Λ 2454



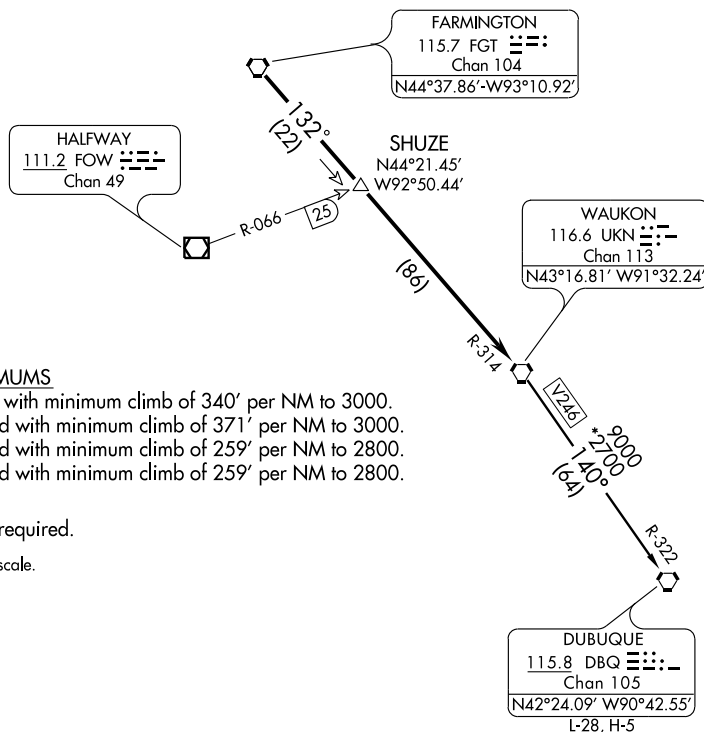
FAF to MAP 6.5 NM					
Knots	60	90	120	150	180
Min:Sec	6:30	4:20	3:15	2:36	2:10

## WAUKON TWO DEPARTURE

SL-5202 (FAA)

MINNEAPOLIS, MINNESOTA

ATIS 120.625  
 CLNC DEL  
 121.3  
 MINNEAPOLIS DEP CON  
 126.5 357.4



## TAKE-OFF MINIMUMS

Rwy 9: Standard with minimum climb of 340' per NM to 3000.  
 Rwy 18: Standard with minimum climb of 371' per NM to 3000.  
 Rwy 27: Standard with minimum climb of 259' per NM to 2800.  
 Rwy 36: Standard with minimum climb of 259' per NM to 2800.

NOTE: RADAR required.

NOTE: Chart not to scale.

## TAKE-OFF OBSTACLE NOTES

RWY 9: Multiple trees 821' from DER, 619' right of centerline, up to 51' AGL/961' MSL.  
 Tank 1.1 NM from DER, 1280' right of centerline, 170' AGL/1082' MSL.  
 RWY 27: Multiple trees 559' from DER, 404' left of centerline, up to 50' AGL/946' MSL.  
 Multiple trees 480' from DER, 394' right of centerline, up to 26' AGL/922' MSL.  
 RWY 36: Multiple trees 191' from DER, 495' right of centerline, up to 78' AGL/971' MSL.  
 Multiple trees 1458' from DER, 53' left of centerline, up to 59' AGL/958' MSL.

## DEPARTURE ROUTE DESCRIPTION

TAKE-OFF ALL RUNWAYS: Fly assigned heading and altitude for radar vectors to FGT VORTAC then via FGT R-132 and UKN R-314 to UKN VORTAC, thence via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

DUBUQUE TRANSITION (UKN2.DBQ): From over UKN VORTAC via UKN R-140 and DBQ R-322 to DBQ VORTAC.

WLSTN TWO DEPARTURE

SL-5202 (FAA)

MINNEAPOLIS, MINNESOTA

## TAKE-OFF OBSTACLE NOTES

RWY 9: Multiple trees 821' from DER, 619' right of centerline, up to 51' AGL/961' MSL.  
 Tank 1, 1 NM from DER, 1280' right of centerline, 170' AGL/1082' MSL.  
 RWY 27: Multiple trees 559' from DER, 404' left of centerline, up to 50' AGL/946' MSL.  
 Multiple trees 480' from DER, 394' right of centerline, up to 26' AGL/922' MSL.  
 RWY 36: Multiple trees 191' from DER, 495' right of centerline, up to 78' AGL/971' MSL.  
 Multiple trees 1458' from DER, 53' left of centerline, up to 59' AGL/958' MSL.

WLSTN  
N45°28.44'  
W91°00.92'

SNINE  
N45°15.11  
W92°39.0

GOPHER  
117.3 GE :  
Chan 120

MINNEAPOLIS  
15.3 MSP  
Chas 100

## TAKE-OFF MINIMUMS

Rwy 9: Standard with minimum climb of 340' per NM to 3000.  
 Rwy 18: Standard with minimum climb of 371' per NM to 3000.  
 Rwy 27: Standard with minimum climb of 259' per NM to 2800.  
 Rwy 36: Standard with minimum climb of 259' per NM to 2800.

GREEN BAY  
115.5 GRB   
Chan 102

L-31, H-2  
31'-W88°11.69'

DEPARTURE ROUTE DESCRIPTION

**TAKE-OFF ALL RUNWAYS:** Fly assigned heading and altitude for radar vectors to GEP R-072 to WLSTN INT/ GEP 102 DME, thence via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

NOTE: RADAR and DME required.

NOTE: Chart not to scale.

GREEN BAY TRANSITION (WLSTN2.GRB): From over WLSTN INT via GRB R-295 to GRB VORTAC.



ATIS 120.625

CINC DEL

121.3

MINNEAPOLIS DEP CON

126.5 357.4



MINNEAPOLIS

115.3 MSP

Chan 100

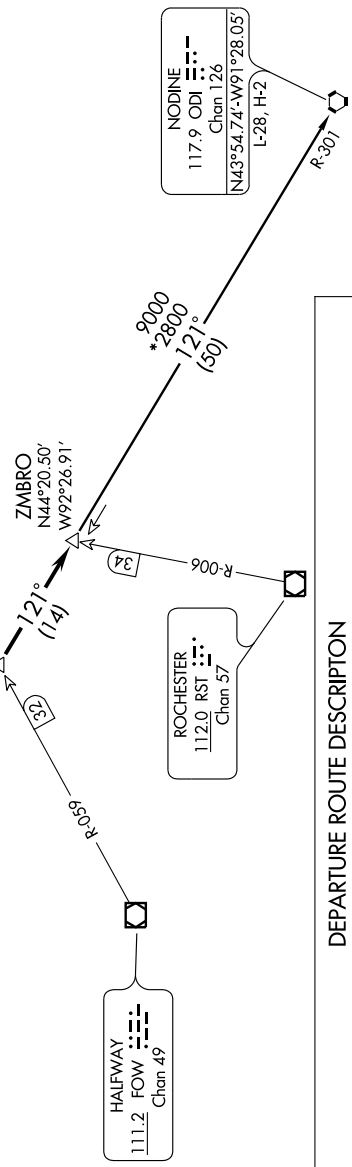
N44°53.79' - W93°14.19'

### TAKE-OFF MINIMUMS

- Rwy 9: Standard with minimum climb of 340' per NM to 3000.
- Rwy 18: Standard with minimum climb of 371' per NM to 3000.
- Rwy 27: Standard with minimum climb of 259' per NM to 2800.
- Rwy 36: Standard with minimum climb of 259' per NM to 2800.

### TAKE-OFF OBSTACLE NOTES

- RWY 9: Multiple trees 821' from DER, 619' right of centerline, up to 51' AGL/961' MSL.
- Tank 1.1 NM from DER, 1280' right of centerline, 170' AGL/1082' MSL.
- RWY 27: Multiple trees 559' from DER, 404' left of centerline, up to 50' AGL/946' MSL.
- Multiple trees 480' from DER, 394' right of centerline, up to 26' AGL/922' MSL.
- RWY 36: Multiple trees 191' from DER, 495' right of centerline, up to 78' AGL/971' MSL.
- Multiple trees 1458' from DER, 53' left of centerline, up to 59' AGL/958' MSL.



### DEPARTURE ROUTE DESCRIPTION

**TAKE-OFF ALL RUNWAYS:** Fly assigned heading and altitude for radar vectors to MSP VOR/DME then via MSP R-138 to JEDET INT/ MSP 34 DME, at or above 4000; then via ODI R-301 to ZMBRO INT/ ODI 50 DME, thence via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

**NODINE TRANSITION (ZMBRO2.ODI):** From over ZMBRO INT via ODI R-301 to ODI VORTAC.

NOTE: RADAR required.  
NOTE: Chart not to scale.

## MINNEAPOLIS-ST. PAUL, MINNESOTA

NC-1-22 OCT 2009 to 19 NOV 2009

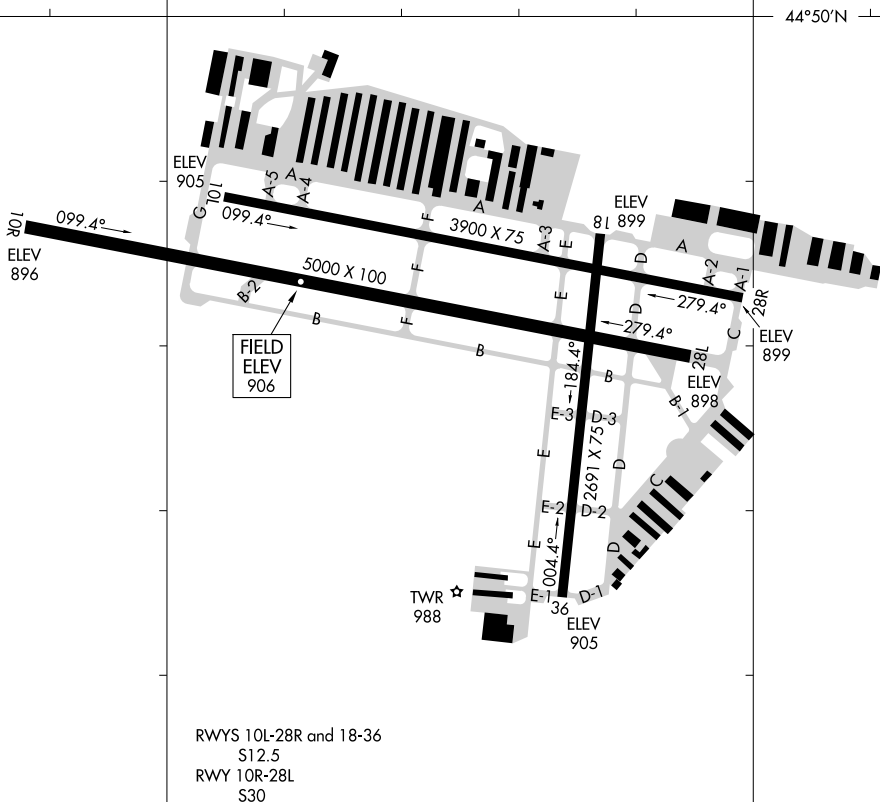
# AIRPORT DIAGRAM

AL-5094 (FAA)

MINNEAPOLIS/ FLYING CLOUD (FCM)  
MINNEAPOLIS, MINNESOTA

ATIS  
124.9  
FLYING CLOUD TOWER ★  
118.1  
GND CON  
121.7  
CLNC DEL  
121.7 (When Tower Closed)

VAR 1.6° E  
JANUARY 2005  
ANNUAL RATE OF CHANGE  
0.1° W



RWYS 10L-28R and 18-36  
S12.5  
RWY 10R-28L  
S30

CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.  
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.

93°28'W

93°27'W

NC-1, 22 OCT 2009 to 19 NOV 2009

LOC I-FCM  
**109.7**

APP CRS  
**098°**

Rwy Idg **5000**  
TDZE **906**  
Apt Elev **906**

# COPTER ILS or LOC RWY 10R

MINNEAPOLIS/ FLYING CLOUD (FCM)

**A** For inoperative MALS R increase visibility to 1/2 mile.



MISSED APPROACH: Climb to 1600 then climbing right turn to 2600 direct FCM VOR/DME and hold.

ATIS  
**124.9**

MINNEAPOLIS APP CON  
**134.7 284.7**

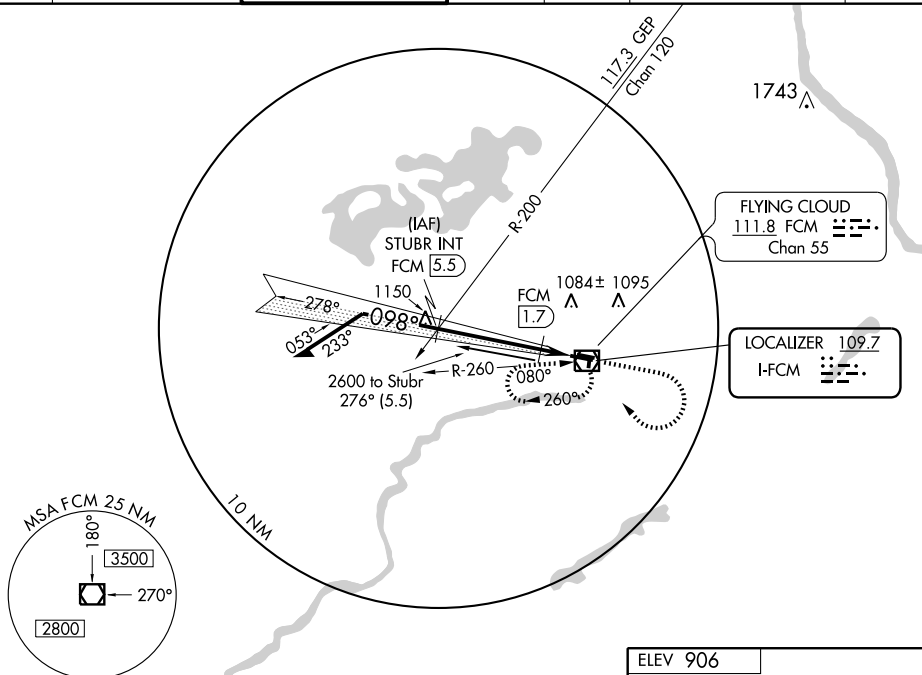
FLYING CLOUD TOWER ★  
**118.1 (CTAF) 0**

GND CON  
**121.7**

CLNC DEL  
**121.7**

MINNEAPOLIS CLNC DEL  
**121.7**  
(When tower closed)

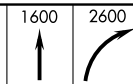
UNICOM  
**122.95**



NC-1: 22 OCT 2009 to 19 NOV 2009

Remain  
within 5 NM

STUBR INT  
FCM 5.5



2600

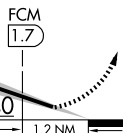
278°

098°

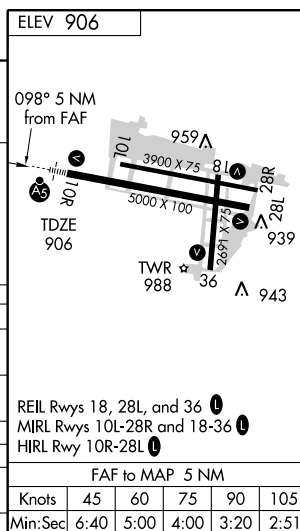
2569

2600

GS 3.00°  
TCH 42



CATEGORY	COPTER	B	C	D
S-ILS 10R	1106-¼ 200 (200-¼)		NA	
S-LOC 10R	1340-¼ 434 (500-¼)		NA	
CIRCLING			NA	
DME MINIMUMS				
S-LOC 10R	1280-¼ 374 (400-¼)		NA	
CIRCLING			NA	



# COULT TWO DEPARTURE

08269

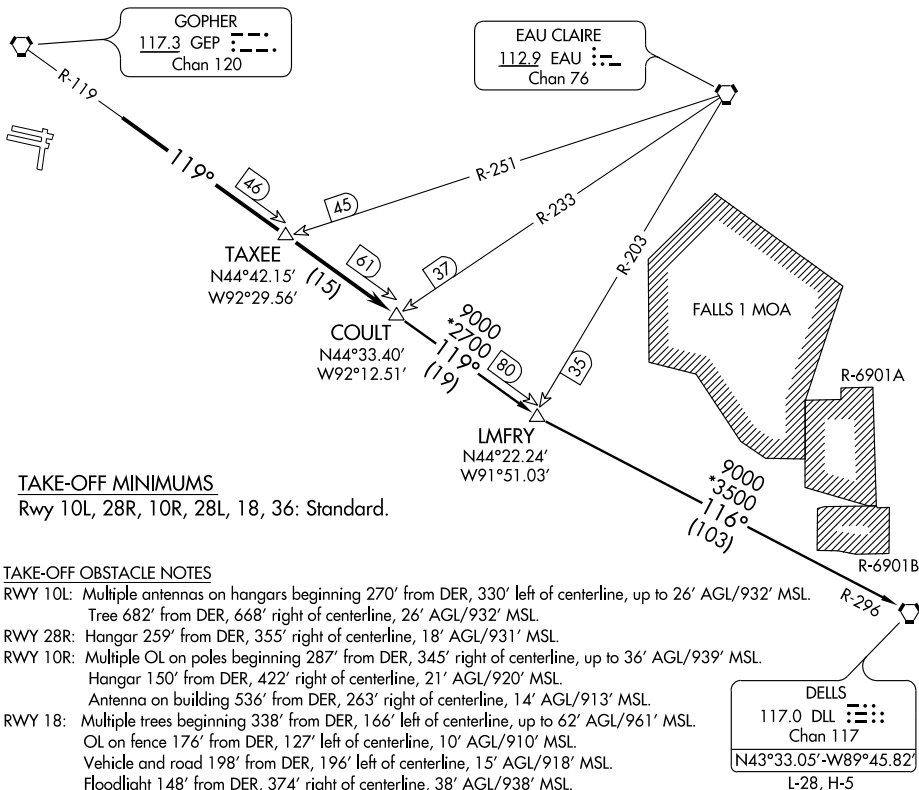
SL-5094 (FAA)

MINNEAPOLIS/FLYING CLOUD (FCM)  
MINNEAPOLIS, MINNESOTA

ATIS 124.9  
CLNC DEL  
121.7  
MINNEAPOLIS DEP CON  
134.7 357.4

GOPHER  
117.3 GEP ---  
Chan 120

EAU CLAIRE  
112.9 EAU ---  
Chan 76



NOTE: RADAR required.

NOTE: Chart not to scale.

## DEPARTURE ROUTE DESCRIPTION

**TAKE-OFF ALL RUNWAYS:** Fly assigned heading and altitude for radar vectors to intercept GEP R-119 to COULT INT/GEP 61 DME, thence via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

**DELLS TRANSITION (COULT2.DLL):** From over COULT INT via GEP R-119 and DLL R-296 to DLL VORTAC.

NC-1, 22 OCT 2009 to 19 NOV 2009

## DARWIN TWO DEPARTURE

SL-5094 (FAA)

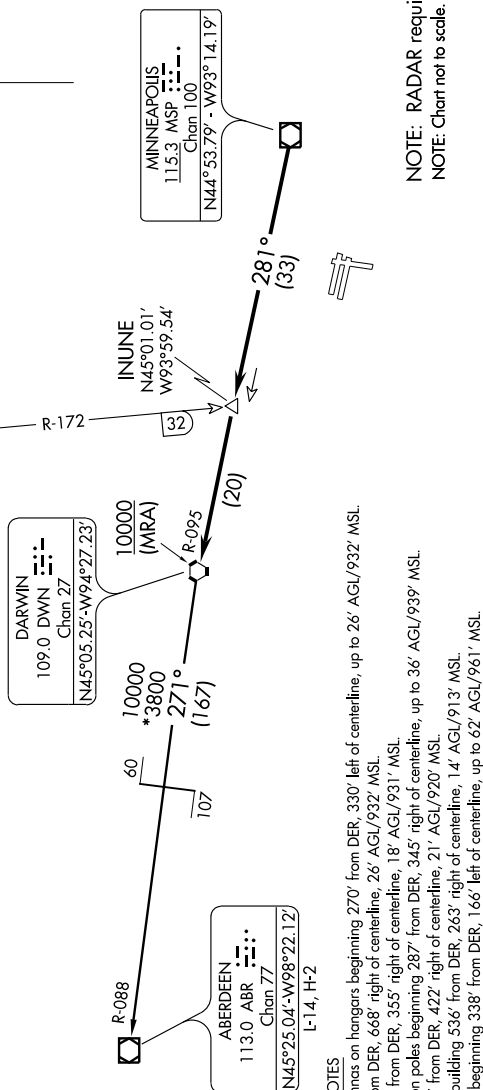
MINNEAPOLIS/ FLYING CLOUD (F'CM)

MINNEAPOLIS, MINNESOTA

ATIS 124.9  
CLNC DEL  
121.7  
MINNEAPOLIS DEP CON  
134.7 357.4

## TAKE-OFF MINIMUMS

Rwy 10L, 28R, 10R, 28L, 18, 36: Standard.



## TAKE-OFF OBSTACLE NOTES

RWY 10L: Multiple antennas on hangars beginning 270' from DER, 330' left of centerline, up to 26' AGL/932' MSL.

Tree 682' from DER, 648' right of centerline, 26' AGL/932' MSL.

RWY 28R: Hangar 259' from DER, 355' right of centerline, 18' AGL/931' MSL.

RWY 10R: Multiple OL on poles beginning 287' from DER, 345' right of centerline, up to 36' AGL/939' MSL.

Hangar 150' from DER, 422' right of centerline, 21' AGL/920' MSL.

Antenna on building 536' from DER, 263' right of centerline, 14' AGL/913' MSL.

RWY 18: Multiple trees beginning 338' from DER, 166' left of centerline, up to 62' AGL/961' MSL.

OL on fence 176' from DER, 127' left of centerline, 10' AGL/910' MSL.

Vehicle and road 198' from DER, 196' left of centerline, 15' AGL/918' MSL.

Floodlight 148' from DER, 374' right of centerline, 38' AGL/938' MSL.

OL on hangar 282' from DER, 317' right of centerline, 37' AGL/937' MSL.

Wind vane 923' from DER, 404' left of centerline, 61' AGL/960' MSL.

Vent on building 943' from DER, 295' left of centerline, 44' AGL/943' MSL.

Pole 714' from DER, 351' left of centerline, 33' AGL/932' MSL.

Multiple trees beginning 504' from DER, 324' right of centerline,

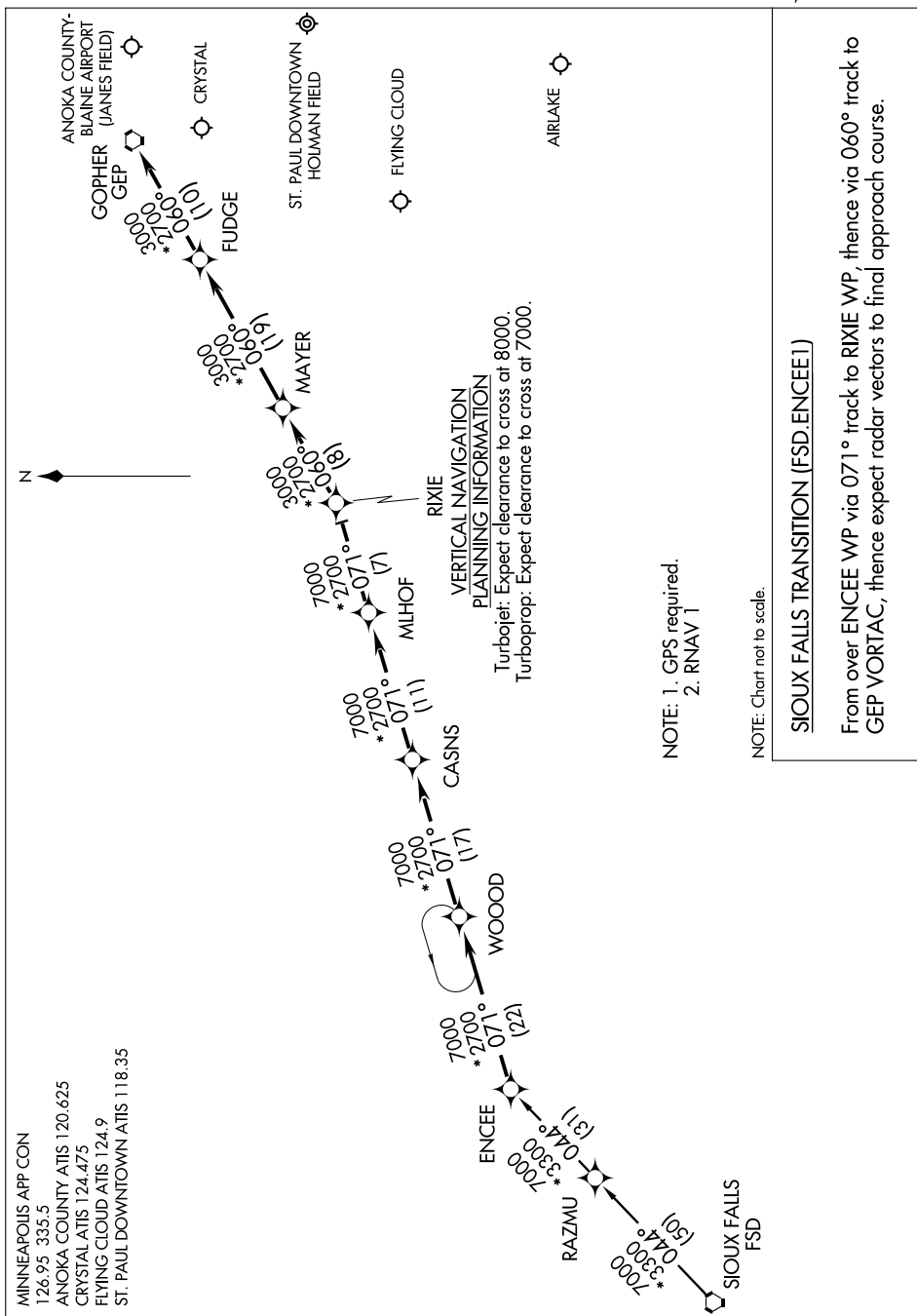
up to 67' AGL/966' MSL.

NOTE: RADAR required.  
NOTE: Chart not to scale.

## DEPARTURE ROUTE DESCRIPTION

**TAKE-OFF ALL RUNWAYS:** Fly assigned heading and altitude for radar vectors to MSP VOR/DME then via MSP R-281 and DWN R-095 to DWN VORTAC, thence via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

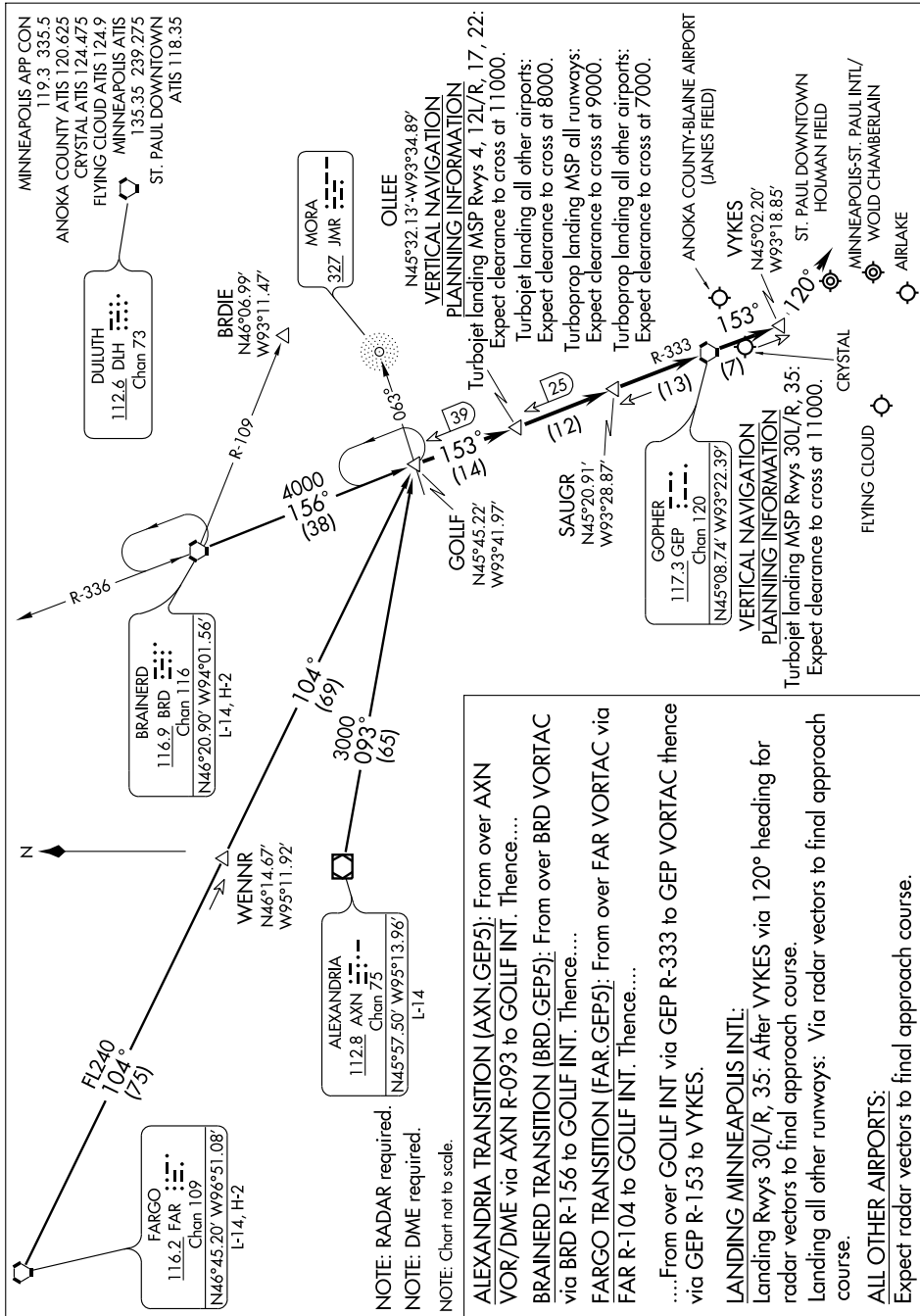
**ABERDEEN TRANSITION (DWN2.ABR):** From over DWN VORTAC via DWN R-271 and ABR R-088 to ABR VOR/DME.



## GOPHER FIVE ARRIVAL

ST-264 (FAA)

MINNEAPOLIS, MINNESOTA





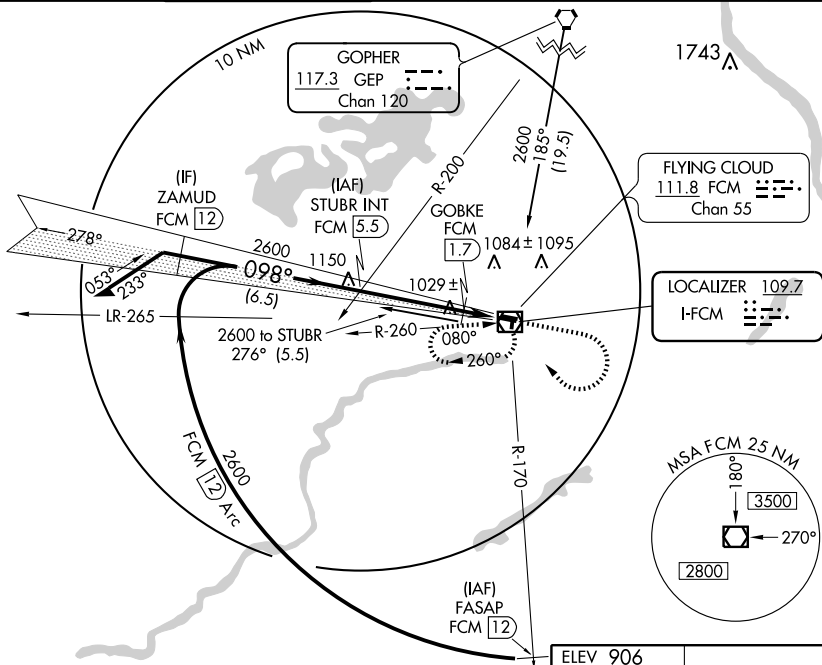
LOC I-FCM	APP CRS	Rwy Idg	<b>5000</b>
<b><u>109.7</u></b>	<b>098°</b>	TDZE	<b>906</b>
		Apt Elev	<b>906</b>

ILS or LOC RWY 10R  
MINNEAPOLIS/ FLYING CLOUD (FCM)

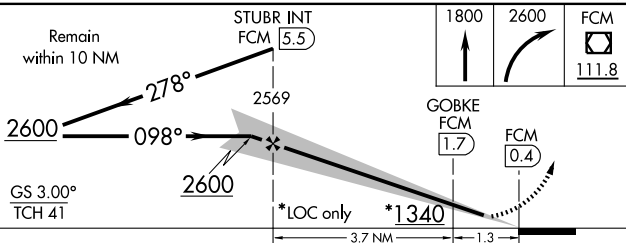
MALSR

**MISSED APPROACH:** Climb to 1800 then climbing right turn to 2600 direct FCM VOR/DME and hold.

ATIS <b>124.9</b>	MINNEAPOLIS APP CON <b>134.7 284.7</b>	FLYING CLOUD TOWER ★ <b>118.1</b> (CTAF) <b>0</b>	GND CON <b>121.7</b>	CLNC DEL <b>121.7</b>	MINNEAPOLIS CLNC DEL <b>121.7</b> (When tower closed)	UNICOM <b>122.95</b>
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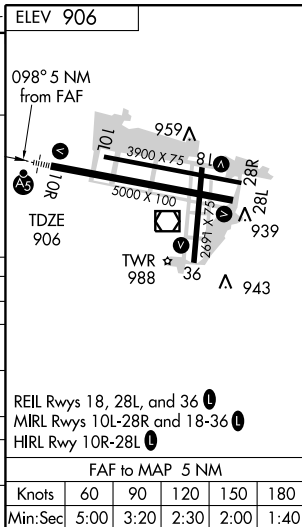
NC-1. 22 OCT 2009 to 19 NOV 2009



CATEGORY	A	B	C	D
S-ILS 10R	1106- $\frac{1}{2}$		200 (200- $\frac{1}{2}$ )	
S-LOC 10R	1340- $\frac{1}{2}$	434 (500- $\frac{1}{2}$ )	1340- $\frac{3}{4}$ 434 (500- $\frac{3}{4}$ )	1340-1 434 (500-1)
CIRCLING	1340-1 434 (500-1)	1360-1 454 (500-1)	1360-1 $\frac{1}{2}$ 454 (500-1 $\frac{1}{2}$ )	1460-2 554 (600-2)

## DME MINIMUMS

S-LOC 10R	1280-1/2 374 (400-1/2)			1280-3/4 374 (400-3/4)
CIRCLING	1320-1 414 (500-1)	1360-1 454 (500-1)	1360-1 1/2 454 (500-1 1/2)	1460-2 554 (600-2)



## KBREW TWO DEPARTURE

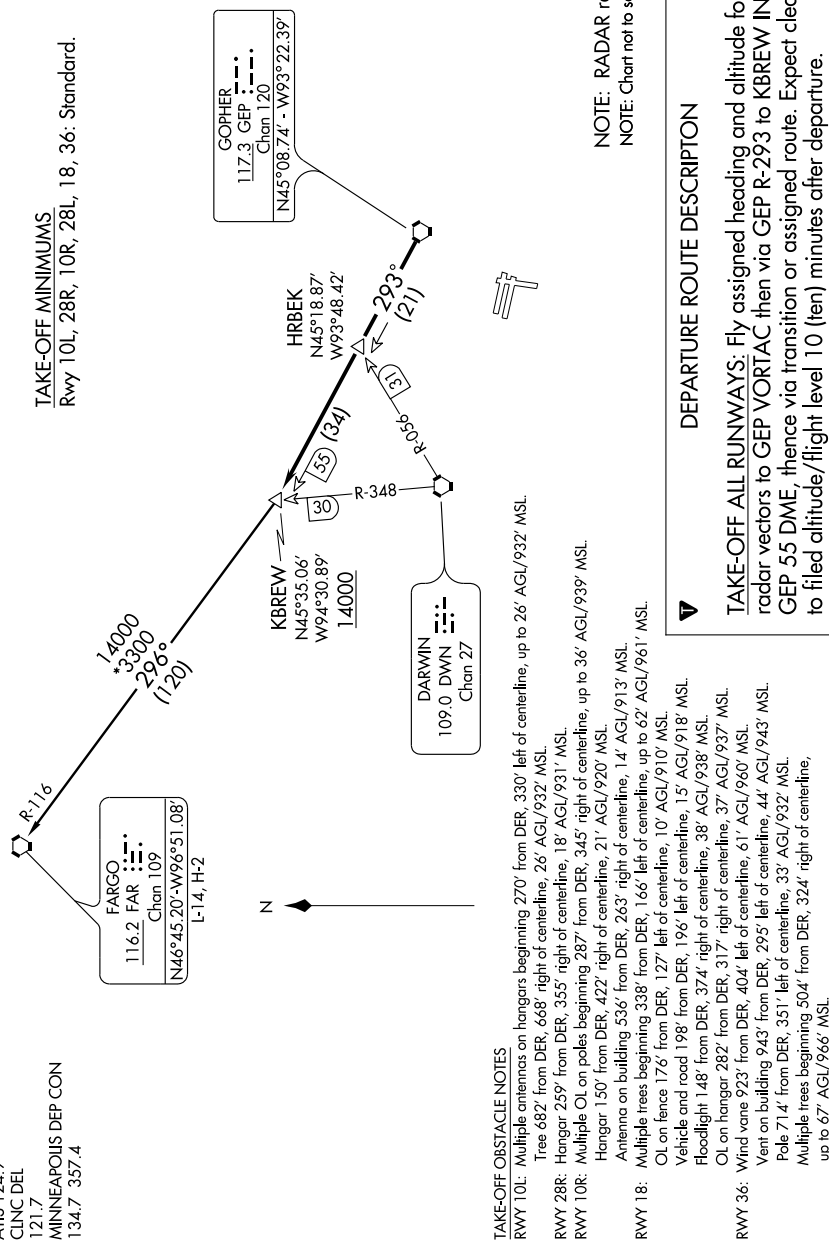
SL-5094 (FAA)

MINNEAPOLIS/ FLYING CLOUD (F'CM)  
MINNEAPOLIS, MINNESOTA

ATIS 124.9  
CLNC DEL  
121.7  
MINNEAPOLIS DEP CON  
134.7 357.4

TAKE-OFF MINIMUMS

Rwy 10L, 28R, 10R, 28L, 18, 36: Standard.

DEPARTURE ROUTE DESCRIPTION

**TAKE-OFF ALL RUNWAYS:** Fly assigned heading and altitude for radar vectors to GEP VORTAC then via GEP R-293 to KBREW INT/ GEP 55 DME, thence via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

**FARGO TRANSITION (KBREW2.FAR):** From over KBREW INT via FAR R-116 to FAR VORTAC.

## ORSKY THREE DEPARTURE

SL-5094 (FAA)

MINNEAPOLIS/ FLYING CLOUD (FCM)  
MINNEAPOLIS, MINNESOTA

ATIS 124.9  
CLNC DEL  
121.7  
MINNEAPOLIS DEP CON  
134.7 357.4

GOPHER  
117.3 GEP :--.  
Chan 120

FLYING CLOUD  
111.8 FCM ䷖䷗  
Chan 55

FAIRMONT  
110.2 FRM   
Chan 39


ONTIJ  
N43°17.86'  
W94°30.77'  
12000 (MR)

GOOLD  
N42°57.52'  
W94°42.85' 4

SIMJI  
N42°49.56'  
W94°47.52'

EYHUX  
N42°26.13' 

114.8 OBH  
—R-070—  
Chan 95

OMAHA  
116.3 OVR   
Chan 110  
1°10.04'-W95°44.20'  
L-10-12, H-5

DES MOINES  
117.5 DSM   
Chan 122

## TAKE-OFF MINIMUMS

Rwy 10L, 28R, 10R, 28L, 18, 36: Standard.

NOTE: RADAR required.

NOTE: Chart not to scale.

(NARRATIVE ON FOLLOWING PAGE)

NC-1. 22 OCT 2009 to 19 NOV 2009



## DEPARTURE ROUTE DESCRIPTION

TAKE-OFF ALL RUNWAYS: Fly assigned heading and altitude for radar vectors to MSP VOR/DME then via MSP R-208 to ORSKY INT/MSP 85 DME, thence via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

FORT DODGE TRANSITION (ORSKY3.FOD): From over ORSKY INT via FOD R-356 to FOD VORTAC.

OMAHA TRANSITION (ORSKY3.OVR): From over ORSKY INT via MSP R-208 to ONTJ INT then via OVR R-015 to OVR VORTAC.

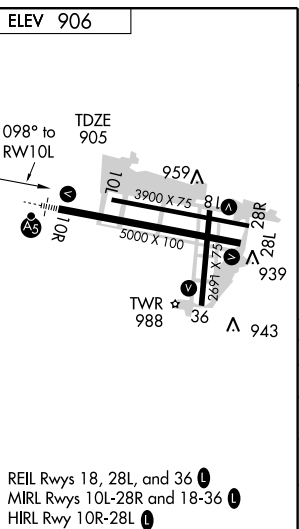
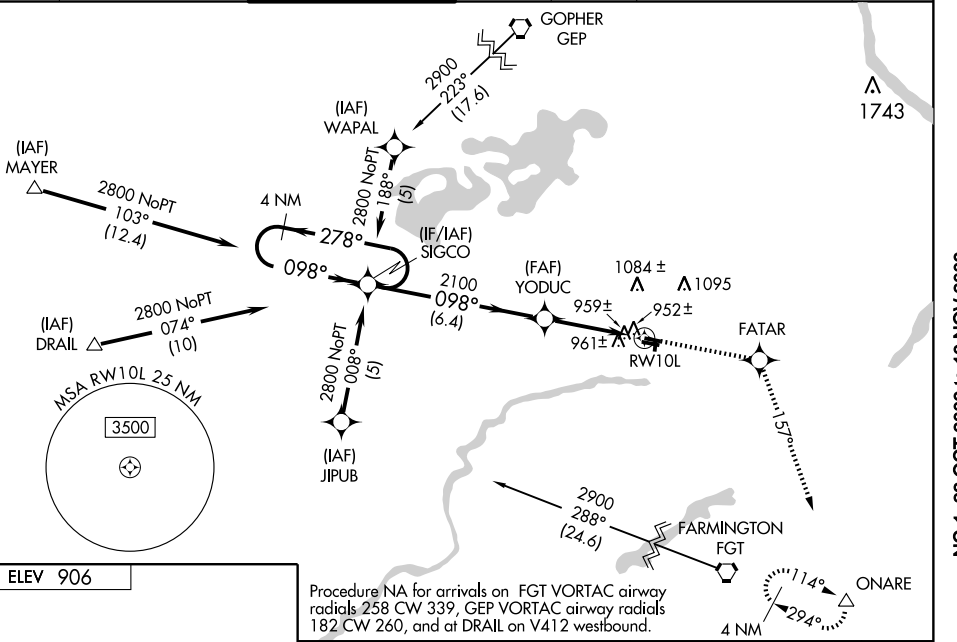
## TAKE-OFF OBSTACLE NOTES

- RWY 10L: Multiple antennas on hangars beginning 270' from DER, 330' left of centerline, up to 26' AGL/932' MSL.  
Tree 682' from DER, 668' right of centerline, 26' AGL/932' MSL.
- RWY 28R: Hangar 259' from DER, 355' right of centerline, 18' AGL/931' MSL.
- RWY 10R: Multiple OL on poles beginning 287' from DER, 345' right of centerline, up to 36' AGL/939' MSL.  
Hangar 150' from DER, 422' right of centerline, 21' AGL/920' MSL.  
Antenna on building 536' from DER, 263' right of centerline, 14' AGL/913' MSL.
- RWY 18: Multiple trees beginning 338' from DER, 166' left of centerline, up to 62' AGL/961' MSL.  
OL on fence 176' from DER, 127' left of centerline, 10' AGL/910' MSL.  
Vehicle and road 198' from DER, 196' left of centerline, 15' AGL/918' MSL.  
Floodlight 148' from DER, 374' right of centerline, 38' AGL/938' MSL.  
OL on hangar 282' from DER, 317' right of centerline, 37' AGL/937' MSL.
- RWY 36: Wind vane 923' from DER, 404' left of centerline, 61' AGL/960' MSL.  
Vent on building 943' from DER, 295' left of centerline, 44' AGL/943' MSL.  
Pole 714' from DER, 351' left of centerline, 33' AGL/932' MSL.  
Multiple trees beginning 504' from DER, 324' right of centerline, up to 67' AGL/966' MSL.

**⚠** Baro-VNAV NA when using Minneapolis-St. Paul Intl/Wold Chamberlain altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 46°C (114°F). DME/DME RNP -0.3 NA. Visibility reduction by helicopters NA. When local altimeter setting not received, use Minneapolis-St. Paul Intl/Wold Chamberlain altimeter setting and increase all DA 34 feet and all MDA 40 feet and LNAV Cat D visibility 1/4 mile.

Climb to 2900 direct FATAR and via 157° track to ONARE and hold.

ATIS 124.9	MINNEAPOLIS APP CON 134.7 284.7	FLYING CLOUD TOWER ★ 118.1 (CTAF) 0	GND CON 121.7	CLNC DEL 121.7	MINNEAPOLIS CLNC DEL 121.7 (When tower closed)	UNICOM 122.95
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4 NM Holding Pattern	SIGCO	2900	FATAR	157° track	ONARE
CATEGORY	A	B	C	D	
LPV DA	1186-1 281 (300-1)				
LNAV/VNAV DA	1229-1¼ 324 (400-1¼)				
LNAV MDA	1240-1 335 (400-1)				
CIRCLING	1300-1 394 (400-1)	1360-1 454 (500-1)	1360-1½ 454 (500-1½)	1460-2 554 (600-2)	

REIL Rwy 18, 28L, and 36  
MIRL Rwy 10L-28R and 18-36  
HIRL Rwy 10R-28L

NC-1. 22 OCT 2009 to 19 NOV 2009

APP CRS	Rwy Idg	5000
278°	TDZE	906
	Apt Elev	906

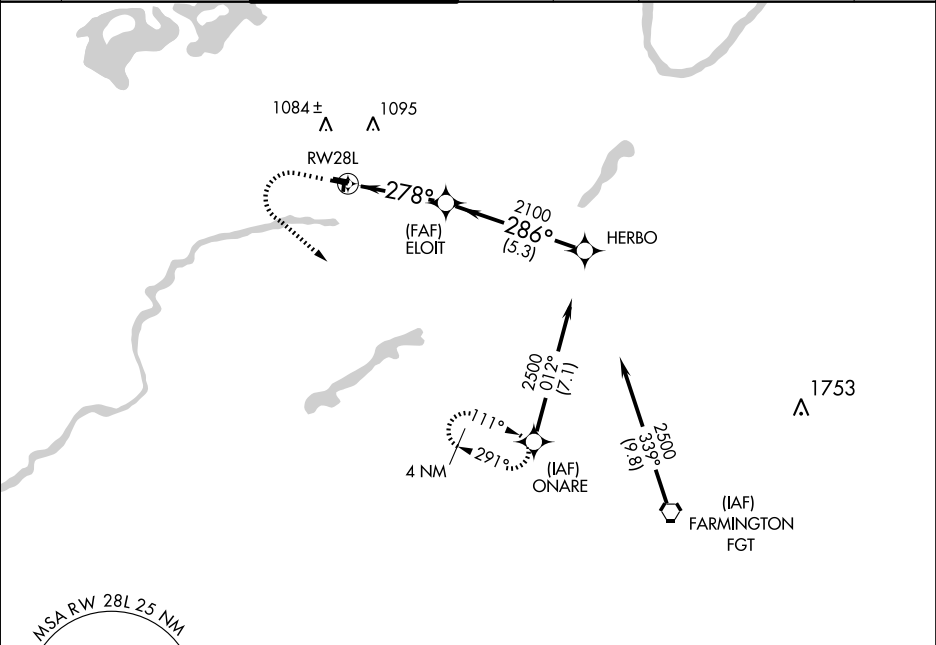
# RNAV (GPS) RWY 28L

MINNEAPOLIS/ FLYING CLOUD (FCM)

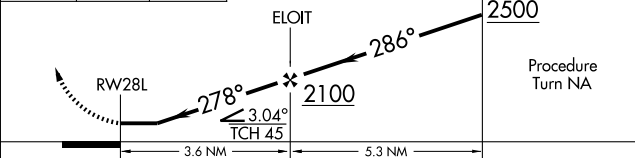
GPS or RNP- 0.3 required. DME/DME RNP- 0.3 NA.  
 NA

MISSED APPROACH: Climb to 1500 then climbing left turn to 3000 direct ONARE WP and hold.

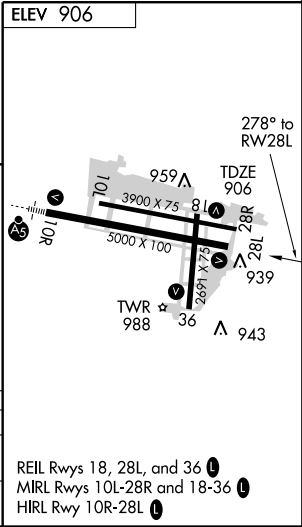
ATIS	MINNEAPOLIS APP CON	FLYING CLOUD TOWER *	GND CON	CLNC DEL	MINNEAPOLIS CLNC DEL	UNICOM
124.9	134.7 284.7	118.1 (CTAF)	121.7	121.7	121.7 (When tower closed)	122.95



1500	3000	ONARE
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CATEGORY	A	B	C	D
RNAV MDA	1280-1	374 (400-1)		1280-1¼ 374 (400-1¼)
CIRCLING	1320-1 414 (500-1)	1360-1 454 (500-1)	1360-1½ 454 (500-1½)	1460-2 554 (600-2)



WAAS CH <b>99709</b> <b>W28A</b>	APP CRS <b>278°</b>	Rwy Idg <b>3900</b> TDZE <b>900</b> Apt Elev <b>906</b>
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# RNAV (GPS) RWY 28R

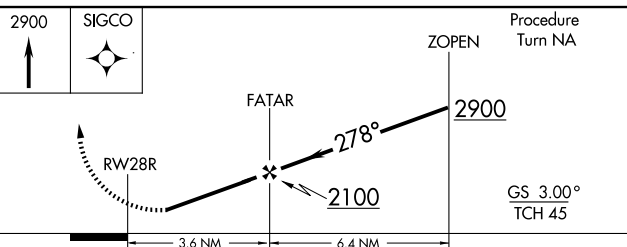
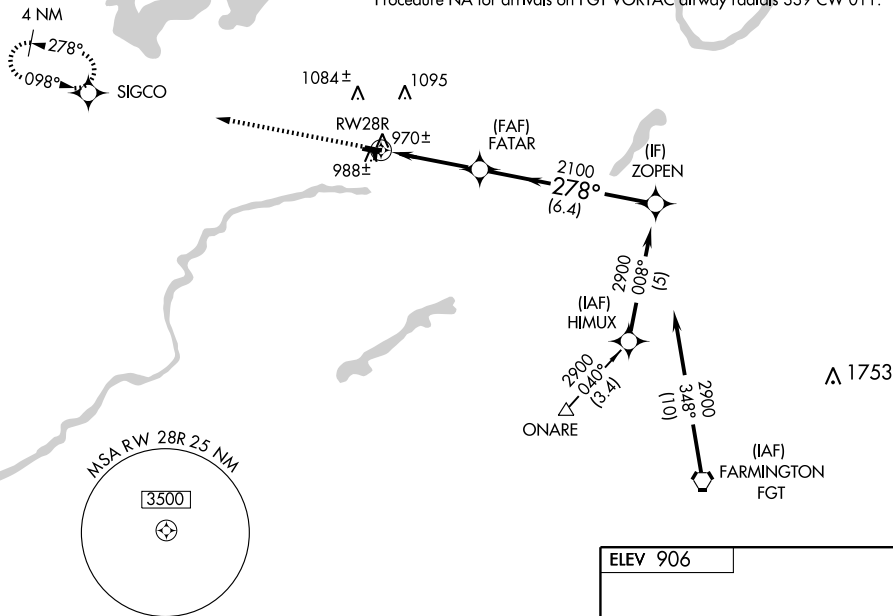
## MINNEAPOLIS/FLYING CLOUD (FCM)

**▼** DME/DME RNP -0.3 NA. Visibility reduction by helicopters NA. When local altimeter setting not received, use Minneapolis-St. Paul Int'l/Wold Chamberlain altimeter setting and increase all DA 34 feet and all MDA 40 feet and LNAV Cat D visibility  $\frac{1}{4}$  mile. Baro-VNAV NA when using Minneapolis-St. Paul Int'l/Wold Chamberlain altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 46°C (114°F).

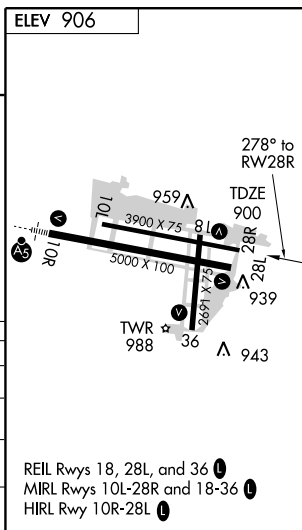
**MISSED APPROACH:** Climb to 2900 direct SIGCO and hold.

ATIS <b>124.9</b>	MINNEAPOLIS APP CON <b>134.7 284.7</b>	FLYING CLOUD TOWER ★ <b>118.1 (CTAF) 0</b>	GND CON <b>121.7</b>	CLNC DEL <b>121.7</b>	MINNEAPOLIS CLNC DEL <b>121.7</b> (When tower closed)	UNICOM <b>122.95</b>
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Procedure NA for arrivals on FGT VORTAC airway radials 339 CW 011.



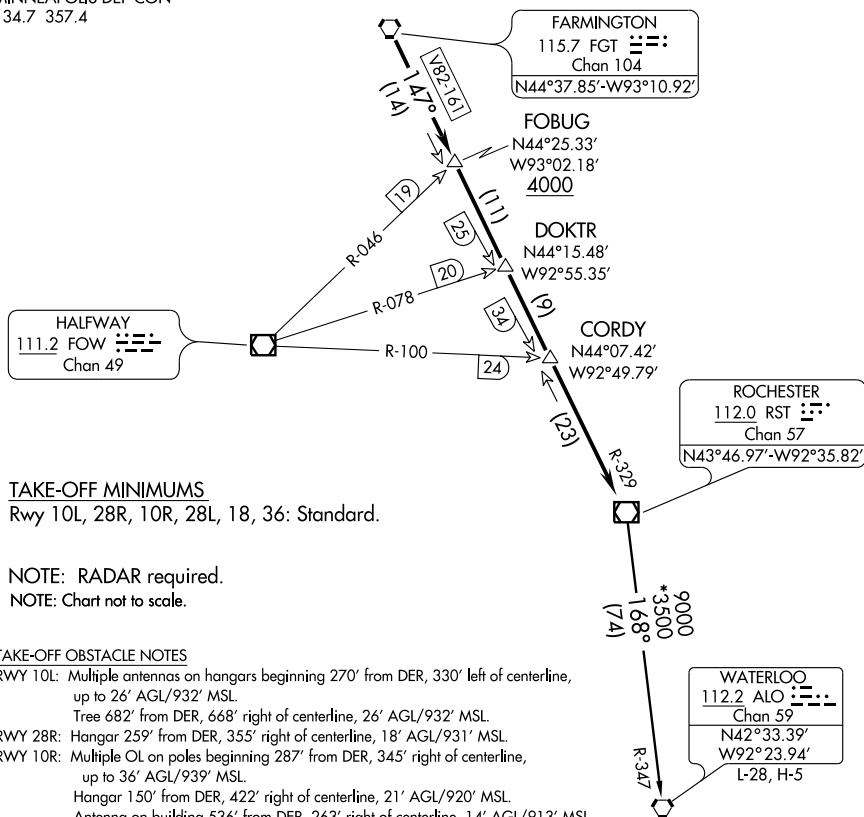
CATEGORY	A	B	C	D
LPV DA		1150-1	250 (300-1)	
LNAV/ VNAV DA		1240-1½	340 (400-1½)	
LNAV MDA		1240-1	340 (400-1)	
CIRCLING	1300-1 394 (400-1)	1360-1 454 (500-1)	1360-1½ 454 (500-½)	1460-2 554 (600-2)







ATIS 124.9  
CLNC DEL  
121.7  
MINNEAPOLIS DEP CON  
134.7 357.4

**TAKE-OFF MINIMUMS**

Rwy 10L, 28R, 10R, 28L, 18, 36: Standard.

NOTE: RADAR required.

NOTE: Chart not to scale.

**TAKE-OFF OBSTACLE NOTES**

**RWY 10L:** Multiple antennas on hangars beginning 270' from DER, 330' left of centerline, up to 26' AGL/932' MSL.

Tree 682' from DER, 668' right of centerline, 26' AGL/932' MSL.

**RWY 28R:** Hangar 259' from DER, 355' right of centerline, 18' AGL/931' MSL.

**RWY 10R:** Multiple OL on poles beginning 287' from DER, 345' right of centerline, up to 36' AGL/939' MSL.

Hangar 150' from DER, 422' right of centerline, 21' AGL/920' MSL.

Antenna on building 536' from DER, 263' right of centerline, 14' AGL/913' MSL.

**RWY 18:** Multiple trees beginning 338' from DER, 166' left of centerline, up to 62' AGL/961' MSL.

OL on fence 176' from DER, 127' left of centerline, 10' AGL/910' MSL.

Vehicle and road 198' from DER, 196' left of centerline, 15' AGL/918' MSL.

Floodlight 148' from DER, 374' right of centerline, 38' AGL/938' MSL.

OL on hangar 282' from DER, 317' right of centerline, 37' AGL/937' MSL.

**RWY 36:** Wind vane 923' from DER, 404' left of centerline, 61' AGL/960' MSL.

Vent on building 943' from DER, 295' left of centerline, 44' AGL/943' MSL.

Pole 714' from DER, 351' left of centerline, 33' AGL/932' MSL.

Multiple trees beginning 504' from DER, 324' right of centerline, up to 67' AGL/966' MSL.

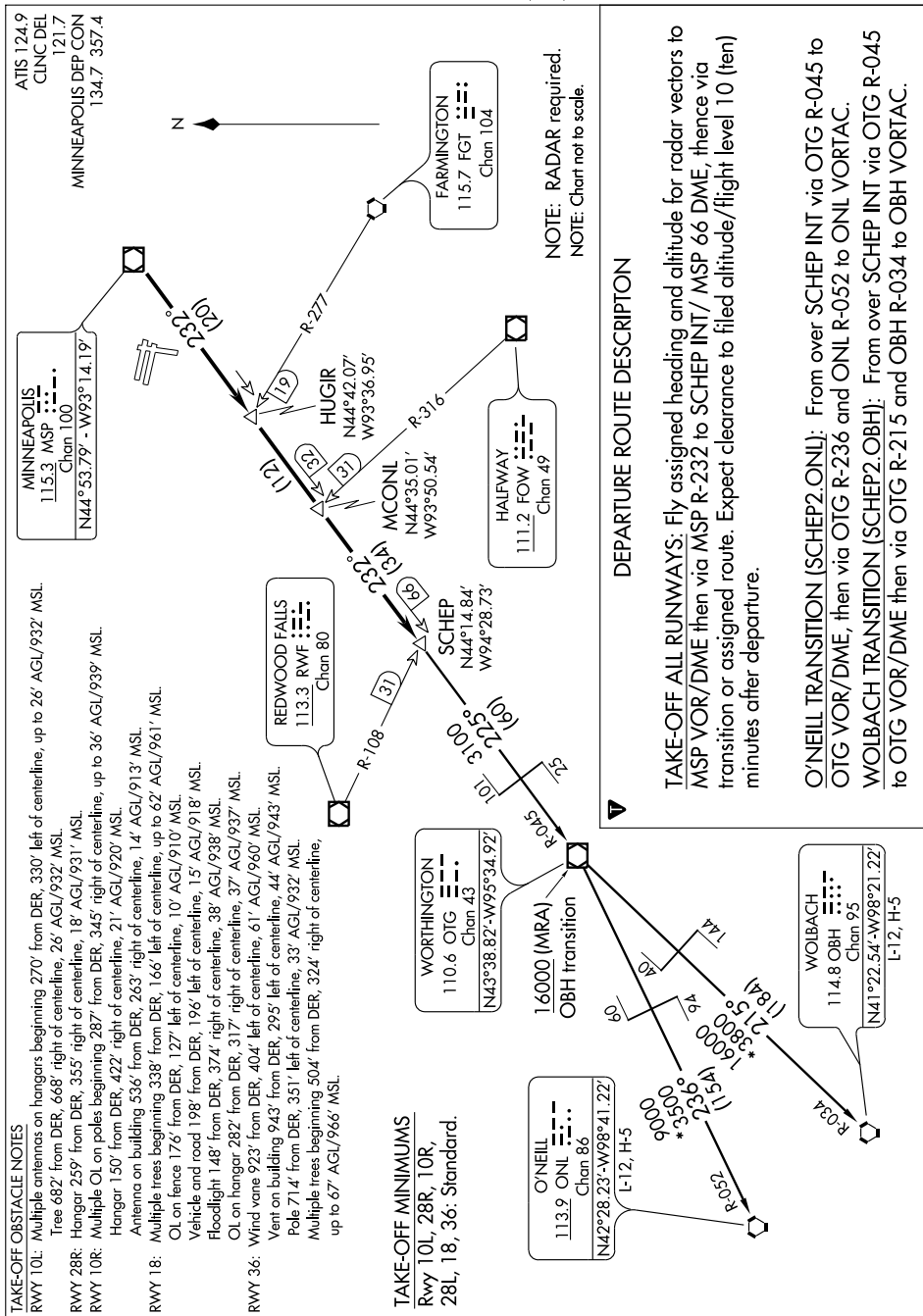
**DEPARTURE ROUTE DESCRIPTION**

**TAKE-OFF ALL RUNWAYS:** Fly assigned heading and altitude for radar vectors to FGT VORTAC then via FGT R-147 and RST R-329 to RST VOR/DME. Cross FOBUG INT/FGT 14 DME at or above 4000, thence via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

**WATERLOO TRANSITION (RST3.ALO):** From over RST VOR/DME via RST R-168 and ALO R-347 to ALO VORTAC.

## SCHEP TWO DEPARTURE

SL-5094 (FAA)

MINNEAPOLIS/ FLYING CLOUD (F'CM)  
MINNEAPOLIS, MINNESOTA

TWOLF ONE ARRIVAL

ST-264 (FAA)

MINNEAPOLIS, MINNESOTA

MINNEAPOLIS APP CON  
126.95 335.5  
118.72 (MSP RWY 35)  
ANOKA COUNTY ATIS 120.625  
CRYSTAL ATIS 124.475  
FLYING CLOUD ATIS 124.9  
MINNEAPOLIS ATIS  
135.35 239.275  
ST. PAUL DOWNTOWN ATIS  
118.35

GOPHER  
117.3 GEP :.  
Chan 120

FLYING CLOUD  
111.8 FCM  $\begin{smallmatrix} \cdot\cdot \\ \text{---} \end{smallmatrix} \begin{smallmatrix} \cdot\cdot \\ \text{---} \end{smallmatrix} \cdot$   
Chan 55  
N44°49.54'-W93°27.4

TRGET  
N44°13.88'-W93°27.73'  
VERTICAL NAVIGATION  
PLANNING INFORMATION  
MSP: Expect clearance to cross at 11000'.  
All other airports: Turbojet: Expect  
clearance to cross at 8000'.  
Turboprop: Expect clearance to  
cross at 7000'.

MANKATO  
110.8 MKT   
Chan 45

FARMINGTON  
115.7 FGT  $\underline{\underline{::=}}$   
Chan 104  
N44°37.86'-W93°10.93'


(K) N44°30.68'  
W93°15.97'

— PIKKL  
N44°22.82'  
W93°21.49'

— LYNKS  
N44°06.89'  
W93°28.39'

KGEEE  
N43°44.94'  
W93°30.48'

TWOLF  
N43°17.00'  
W93°33.09'

FORT DODGE  
113.5 FOD   
Chan 82  
N42°36.67'-W94°17.69'  
L-12, H-5

TICKT  
N42°53.71'  
W93°59.01'

NOTE: RADAR required.

NOTE: DME required.

(NARRATIVE ON FOLLOWING PAGE)

NOTE: Chart not to scale.

NC-1. 22 OCT 2009 to 19 NOV 2009

## ARRIVAL DESCRIPTION

FORT DODGE TRANSITION (FOD.TWOLF1): From over FOD VORTAC via FOD R-032 to TWOLF. Thence....

....From over TWOLF via GEP R-178 to KGEFF, then via GEP R-178 to TRGET INT, then via FGT R-201 to FGT VORTAC. Thence....

LANDING MSP RWYS 12L/R: From over FGT VORTAC via FGT R-330 to SLIKK, thence via 300° heading for radar vectors to final approach course.

LANDING MSP RWYS 30L/R, 4, 22, 17, 35: Via radar vectors to final approach course.

ALL OTHER AIRPORTS: From over TRGET INT via FCM VOR/DME R-174 to FCM VOR/DME then expect radar vectors to final approach course.

VOR/DME FCM	APP CRS	Rwy Idg	5000
111.8	096°	TDZE	906
Chan 55		Apt Elev	906

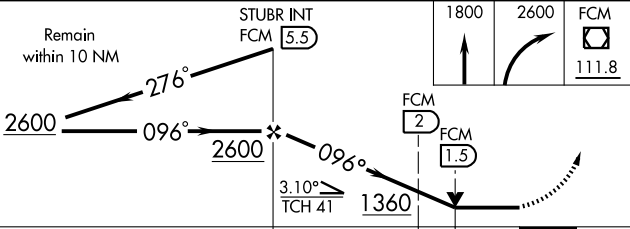
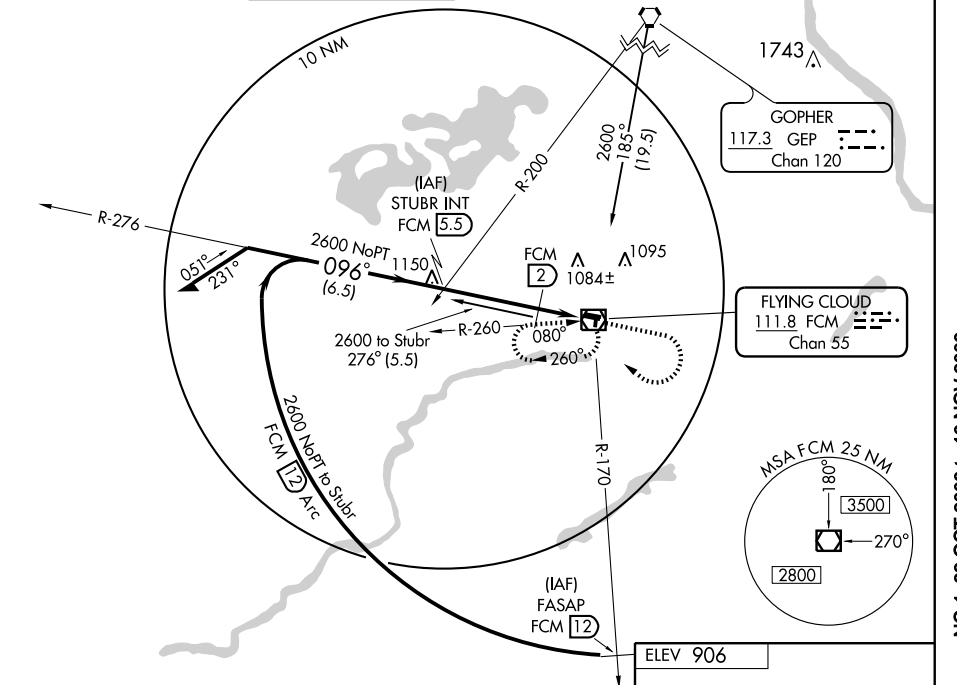
For inoperative MALSR increase S-10R DME MINIMUMS

Cat D visibility to 1¼ mile.

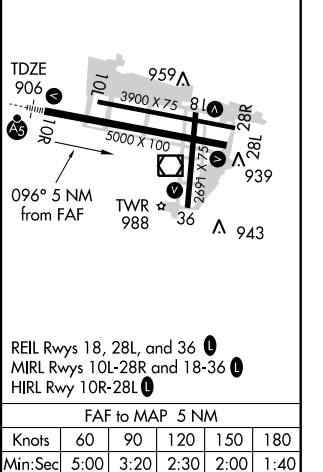
MALSR

MISSED APPROACH: Climb to 1800 then right turn to 2600 direct FCM VOR/DME and hold.

ATIS	MINNEAPOLIS APP CON	FLYING CLOUD TOWER*	GND CON	CLNC DEL	MINNEAPOLIS CLNC DEL	UNICOM
124.9	134.7 284.7	118.1 (CTAF) 0	121.7	121.7	121.7 (When tower closed)	122.95



CATEGORY	A	B	C	D
S-10R	1360-½ 454 (500-½)		1360-¾ 454 (500-¾)	1360-1 454 (500-1)
CIRCLING	1360-1 454 (500-1)		1360-1½ 454 (500-1½)	1460-2 554 (600-2)
DME MINIMUMS				
S-10R	1280-½ 374 (400-½)			1280-1 374 (400-1)
CIRCLING	1320-1 414 (500-1)	1360-1 454 (500-1)	1360-1½ 454 (500-1½)	1460-2 554 (600-2)



VOR/DME FCM <b>111.8</b> Chan <b>55</b>	APP CRS <b>353°</b>	Rwy Idg <b>2691</b> TDZE <b>905</b> Apt Elev <b>906</b>
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VOR RWY 36

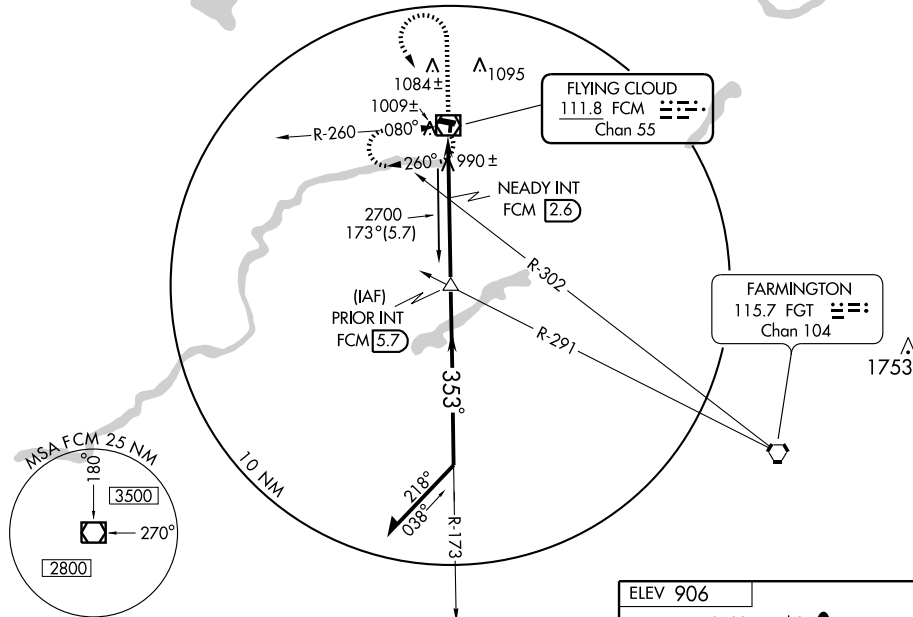
MINNEAPOLIS/FLYING CLOUD (FCM)



**MISSED APPROACH:** Climb to 2500 then climbing left turn to 2700 direct FCM VOR/DME and hold.

ATIS <b>124.9</b>	MINNEAPOLIS APP CON <b>134.7 284.7</b>	FLYING CLOUD TOWER ★ <b>118.1 (CTAF) 0</b>	GND CON <b>121.7</b>	CLNC DEL <b>121.7</b>	MINNEAPOLIS CLNC DEL <b>121.7</b> (When tower closed)	UNICOM <b>122.95</b>
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## DME or RADAR REQUIRED



2500 ↑	2700 ↖	FCM  <u>111.8</u>	PRIOR INT FCM <u>5.7</u>	Remain within 10 NM
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[illegible]

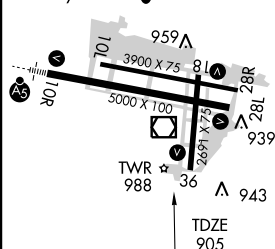
CATEGORY	A	B	C	D
S-36	1680-1 775 (800-1)	1680-1¼ 775 (800-1¼)	1680-2¼ 775 (800-2¼)	NA
CIRCLING	1680-1 774 (800-1)	1680-1¼ 774 (800-1¼)	1680-2¼ 774 (800-2¼)	1680-2½ 774 (800-2½)

## NEADY FIX MINIMUMS

S-36	1260-1 355 (400-1)			NA
CIRCLING	1320-1 414 (500-1)	1360-1 454 (500-1)	1360-1½ 454 (500-1½)	1460-2 554 (600-2)

ELEV 906

REIL Rwy 18, 28L, and 36 **L**  
MIRL Rwy 10L-28R and 18-36 **L**  
HIRL Rwy 10R-28L **L**



353° 5.5 NM →  
from EAF

FAF to MAP 5.5 NM

Knots	60	90	120	150	180
Min:Sec	5:30	3:40	2:45	2:12	1:50

## WAUKON TWO DEPARTURE

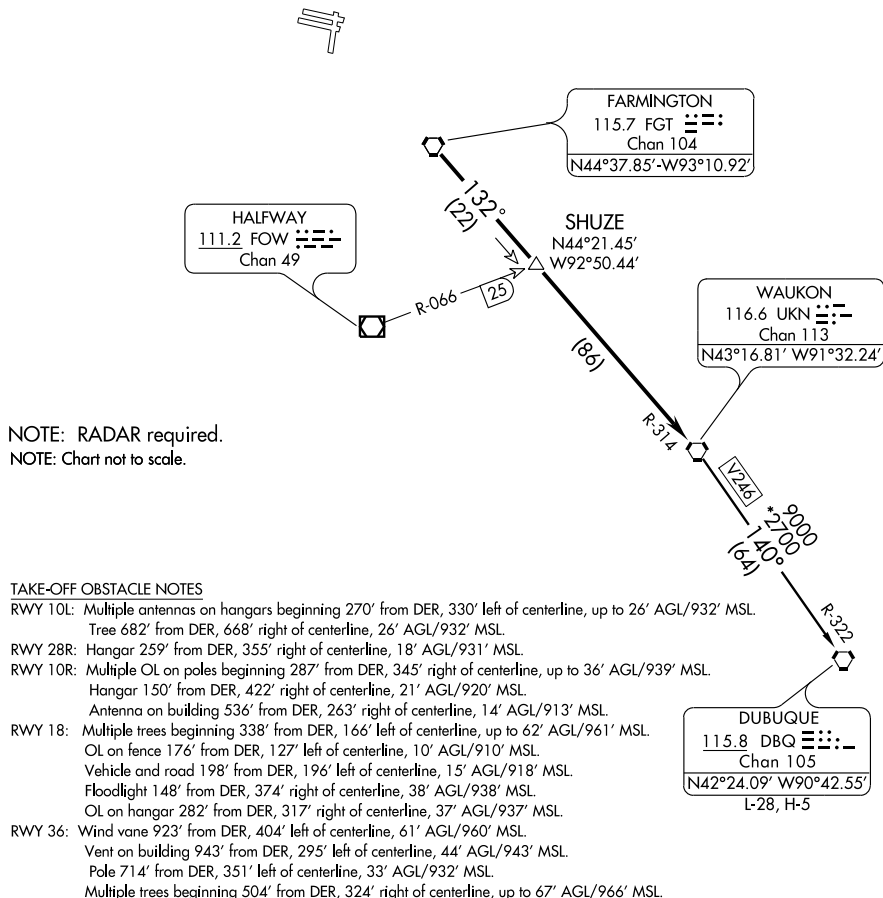
SL-5094 (FAA)

MINNEAPOLIS/ FLYING CLOUD (FCM)  
MINNEAPOLIS, MINNESOTA

ATIS 124.9  
CLNC DEL  
121.7  
MINNEAPOLIS DEP CON  
134.7 357.4

## TAKE-OFF MINIMUMS

Rwy 10L, 28R, 10R, 28L, 18, 36: Standard.



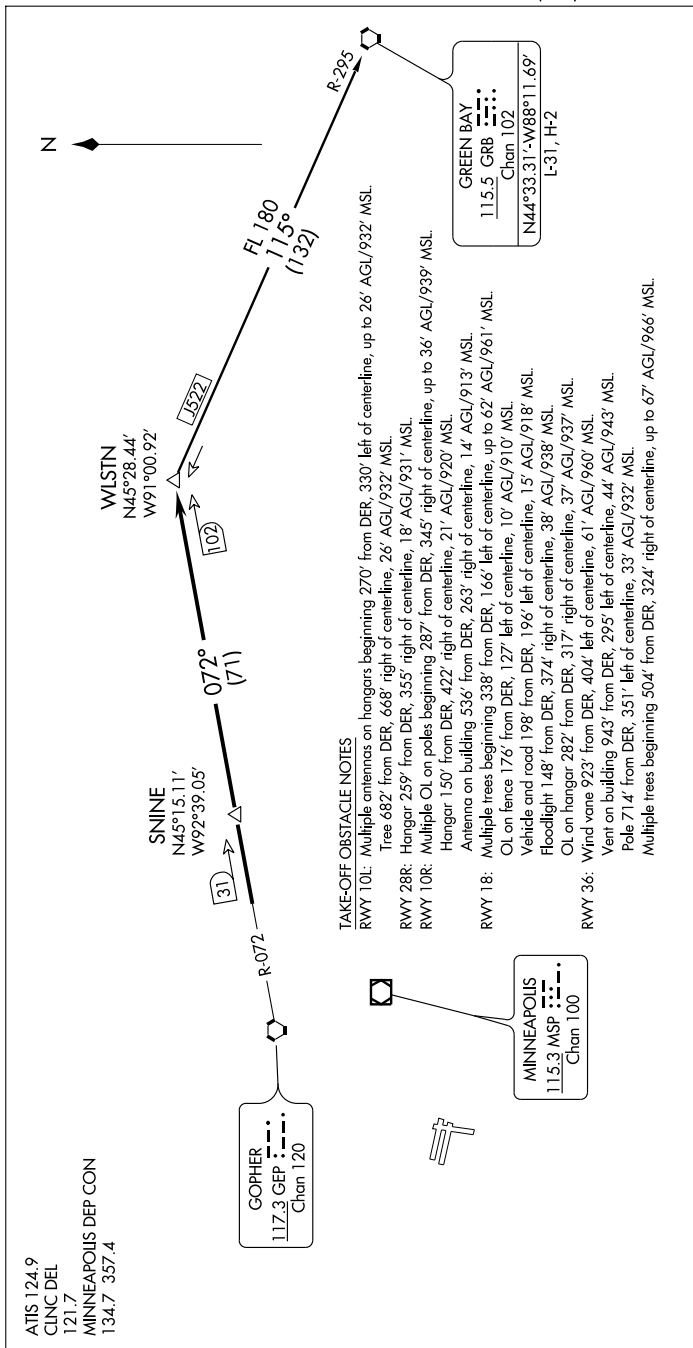
## DEPARTURE ROUTE DESCRIPTION

**TAKE-OFF ALL RUNWAYS:** Fly assigned heading and altitude for radar vectors to FGT VORTAC then via FGT R-132 and UKN R-314 to UKN VORTAC, thence via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

**DUBUQUE TRANSITION (UKN2.DBQ):** From over UKN VORTAC via UKN R-140 and DBQ R-322 to UKN VORTAC.

## WLSTN TWO DEPARTURE

SL-5094 (FAA)

MINNEAPOLIS/ FLYING CLOUD (FCM)  
MINNEAPOLIS, MINNESOTA

## DEPARTURE ROUTE DESCRIPTION

**TAKE-OFF MINIMUMS**  
Rwy 10L, 28R, 10R, 28L, 18, 36: Standard.

**NOTE:** RADAR and DME required.

**NOTE:** Chart not to scale.

**TAKE-OFF ALL RUNWAYS:** Fly assigned heading and altitude for radar vectors to GEP R-072 to WLSTN/ GEP 102 DME, thence via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

**GREEN BAY TRANSITION (WLSTN2.GRB):** From over WLSTN INT via GRB R-295 to GRB VORTAC.



# ZMBRO TWO DEPARTURE

SL-5094 (FAA)

MINNEAPOLIS/ FLYING CLOUD (F'CM)  
MINNEAPOLIS, MINNESOTA

## TAKE-OFF OBSTACLE NOTES

- RWY 10L: Multiple antennas on hangars beginning 270' from DER, 330' left of centerline, up to 26' AGL/932' MSL.  
Tree 682' from DER, 668' right of centerline, 26' AGL/932' MSL.  
RWY 28R: Hangar 259' from DER, 355' right of centerline, 18' AGL/931' MSL.  
RWY 10R: Multiple OL on poles beginning 287' from DER, 345' right of centerline, up to 36' AGL/939' MSL.  
Hangar 150' from DER, 422' right of centerline, 21' AGL/920' MSL.  
Antenna on building 536' from DER, 263' right of centerline, 14' AGL/913' MSL.  
RWY 18: Multiple trees beginning 338' from DER, 166' left of centerline, up to 62' AGL/961' MSL.  
OL on fence 176' from DER, 127' left of centerline, 10' AGL/910' MSL.  
Vehicle and road 198' from DER, 196' left of centerline, 15' AGL/918' MSL.  
Floodlight 148' from DER, 374' right of centerline, 38' AGL/938' MSL.  
OL on hangar 282' from DER, 317' right of centerline, 37' AGL/937' MSL.  
RWY 36: Wind vane 923' from DER, 404' left of centerline, 61' AGL/960' MSL.  
Vent on building 943' from DER, 295' left of centerline, 44' AGL/943' MSL.  
Pole 714' from DER, 351' left of centerline, 33' AGL/932' MSL.  
Multiple trees beginning 504' from DER, 324' right of centerline, up to 67' AGL/966' MSL.

MINNEAPOLIS  
115.3 MSP  
Chan 100  
N44°53.79' - W93°14.19'



ATIS 124.9  
CLNC DEL  
121.7  
MINNEAPOLIS DEP CON  
134.7 357.4

N

JEDET  
N44°27.68'  
W92°43.68'

4000

121°  
(14)

ZMBRO  
N44°20.50'  
W92°26.91'

32

34

R-006

ROCHESTER  
112.0 RST  
Chan 57

9000  
2800

121°  
(50)

R-301

NODINE  
117.9 ODI  
Chan 126  
N43°54.74' - W91°28.05'

L-28, H-2

121°  
(50)

R-301

HALFWAY  
111.2 FOW  
Chan 49

R-039

138°  
(34)

Standard.

Rwy 10L, 28R, 10R, 28L, 18, 36: Standard.

TAKE-OFF MINIMUMS

Rwy 10L, 28R, 10R, 28L, 18, 36: Standard.

## DEPARTURE ROUTE DESCRIPTION

**TAKE-OFF ALL RUNWAYS:** Fly assigned heading and altitude for radar vectors to MSP VOR/DME then via MSP R-138 to JEDET INT/ MSP 34 DME, at or above 4000; then via ODI R-301 to ZMBRO INT/ ODI 50 DME, thence via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

**NODINE TRANSITION [ZMBRO2.ODI]:** From over ZMBRO INT via ODI R-301 to ODI VORTAC.

NOTE: RADAR required.

NOTE: Chart not to scale.

NC-1, 22 OCT 2009 to 19 NOV 2009

# AGUDE ONE ARRIVAL

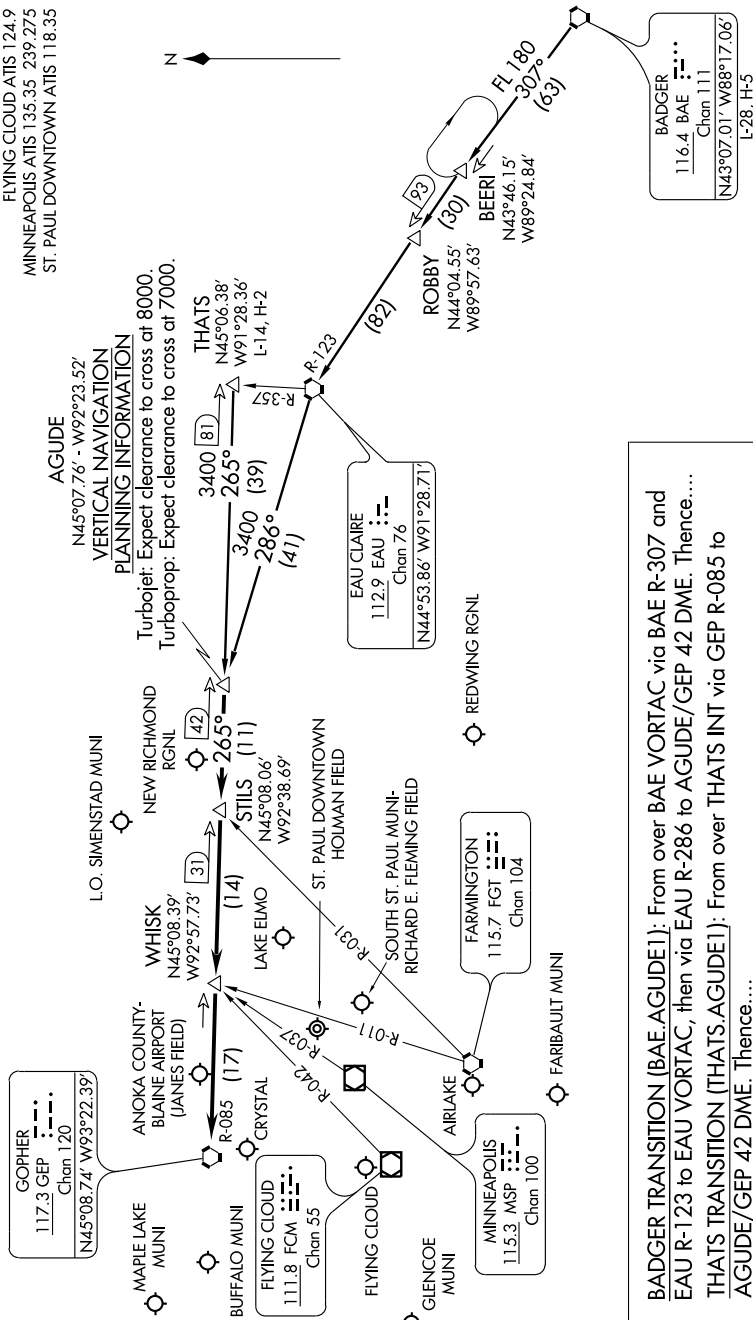
ST-263 (FAA)

MINNEAPOLIS-ST. PAUL, MINNESOTA

MINNEAPOLIS APP CON  
126.95 335.5  
ANOKA COUNTY ATIS 120.625  
CRYSTAL ATIS 124.475  
FLYING CLOUD ATIS 124.9  
MINNEAPOLIS ATIS 135.35 239.275  
ST. PAUL DOWNTOWN ATIS 118.35

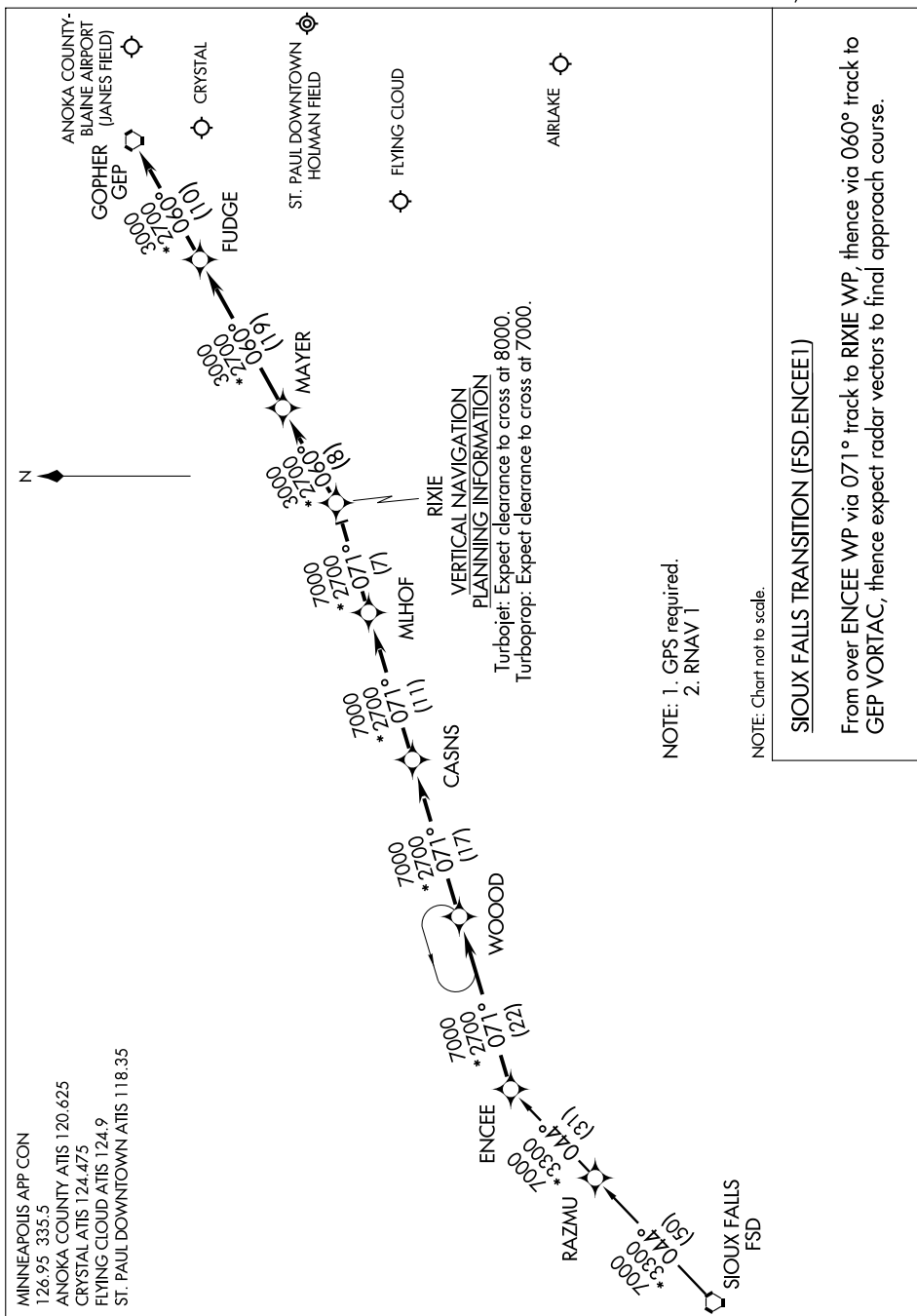
AGUDE  
N45°07.76' - W92°23.52'  
VERTICAL NAVIGATION  
PLANNING INFORMATION

Turbopjet: Expect clearance to cross at 8000.  
Turboprop: Expect clearance to cross at 7000.



BADGER TRANSITION [BAE AGUDE1]: From over BAE VORTAC via BAE R-307 and EAU R-123 to EAU VORTAC, then via EAU R-286 to AGUDE/GEF 42 DME. Thence....  
THATS TRANSITION [THATS.AGUDE1]: From over THATS INT via GEP R-085 to AGUDE/GEF 42 DME. Thence....  
....From over AGUDE/GEF 42 DME via the GEP R-085 to GEP VORTAC, then expect radar vector to final approach course.

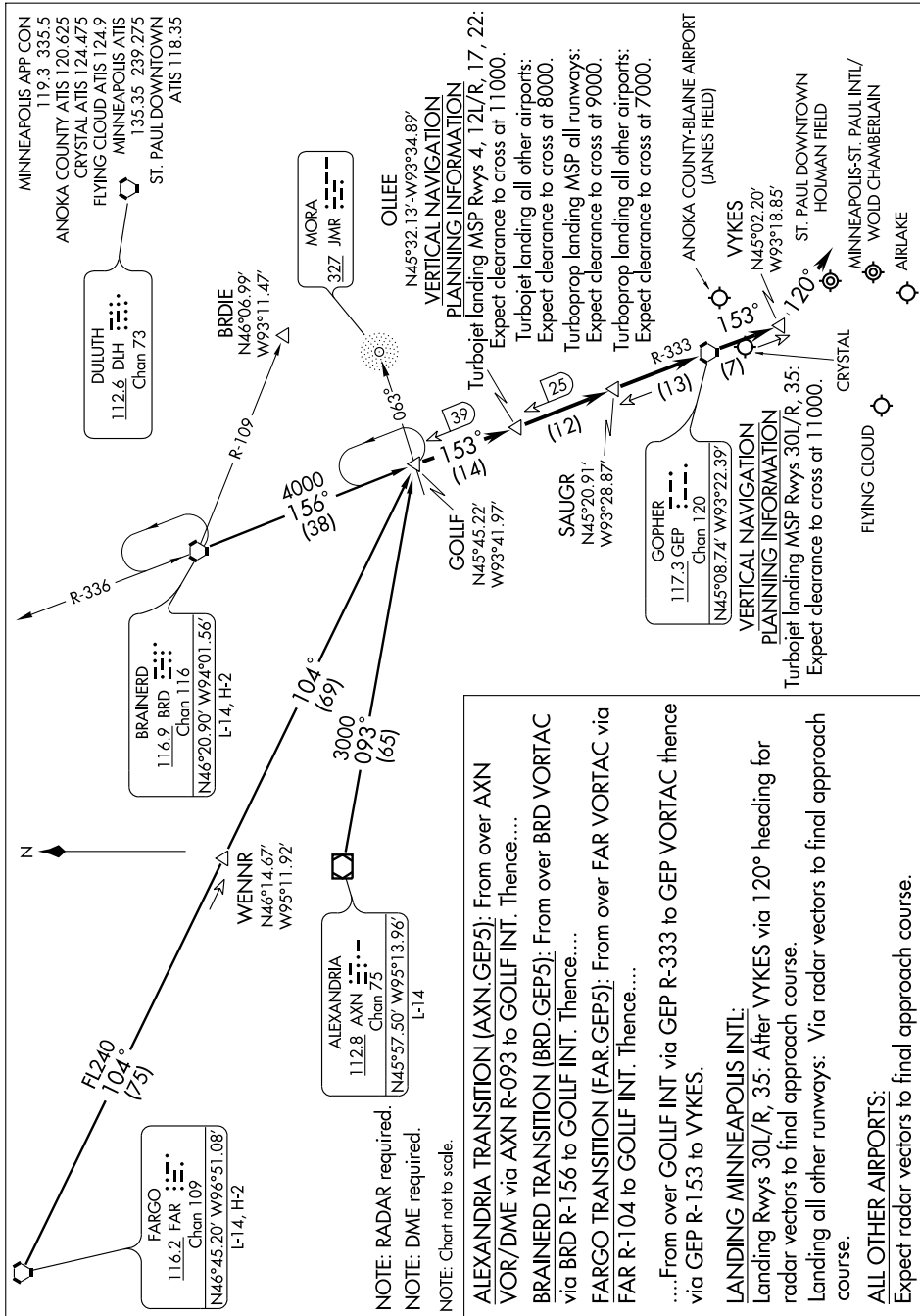
NOTE: DME and RADAR required.  
NOTE: Chart not to scale.



## GOPHER FIVE ARRIVAL

ST-264 (FAA)

MINNEAPOLIS, MINNESOTA



LOC I-LVN <b><u>108.9</u></b>	APP CRS <b>294°</b>	Rwy Idg <b>3706</b> TDZE <b>958</b> Apt Elev <b>960</b>
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# ILS or LOC RWY 30

**A** NA Inoperative table does not apply to S-ILS 30 and S-LOC 30 Cats A and B. For inoperative MALSR, increase S-LOC Cat C visibility to 1¼ mile and Cat D visibility to 1½ mile.

MALSR

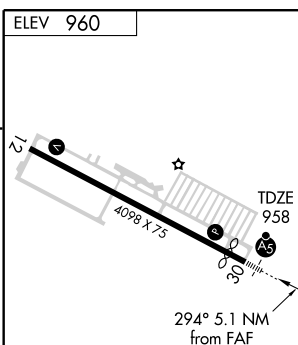
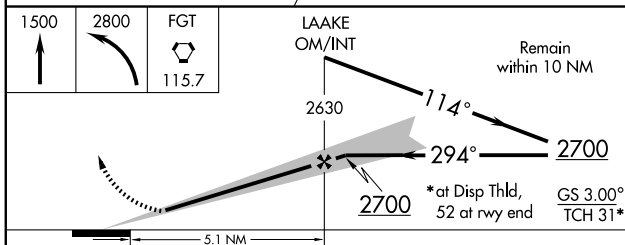
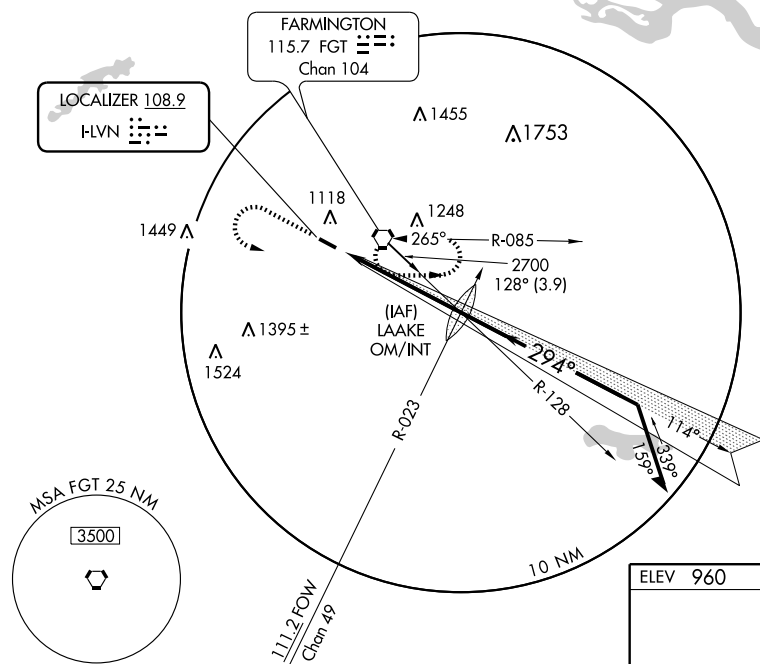
**MISSED APPROACH:** Climb to 1500 then climbing left turn to 2800 direct FGT VORTAC and hold.

AWOS-3  
118.0

MINNEAPOLIS APP CON  
134.7 284.7

CLNC DEL  
118.95

UNICOM  
123.0 (CTAF) **L**



CATEGORY	A	B	C	D
S-ILS 30	1 208-1 250 (300-1)			
S-LOC 30	1 400-1 442 (500-1)			
CIRCLING	1 500-1 540 (600-1)	1 500-1½ 540 (600-1½)		1 520-2 560 (600-2)

REIL Rwy 12 **L**  
HIRL Rwy 12-30

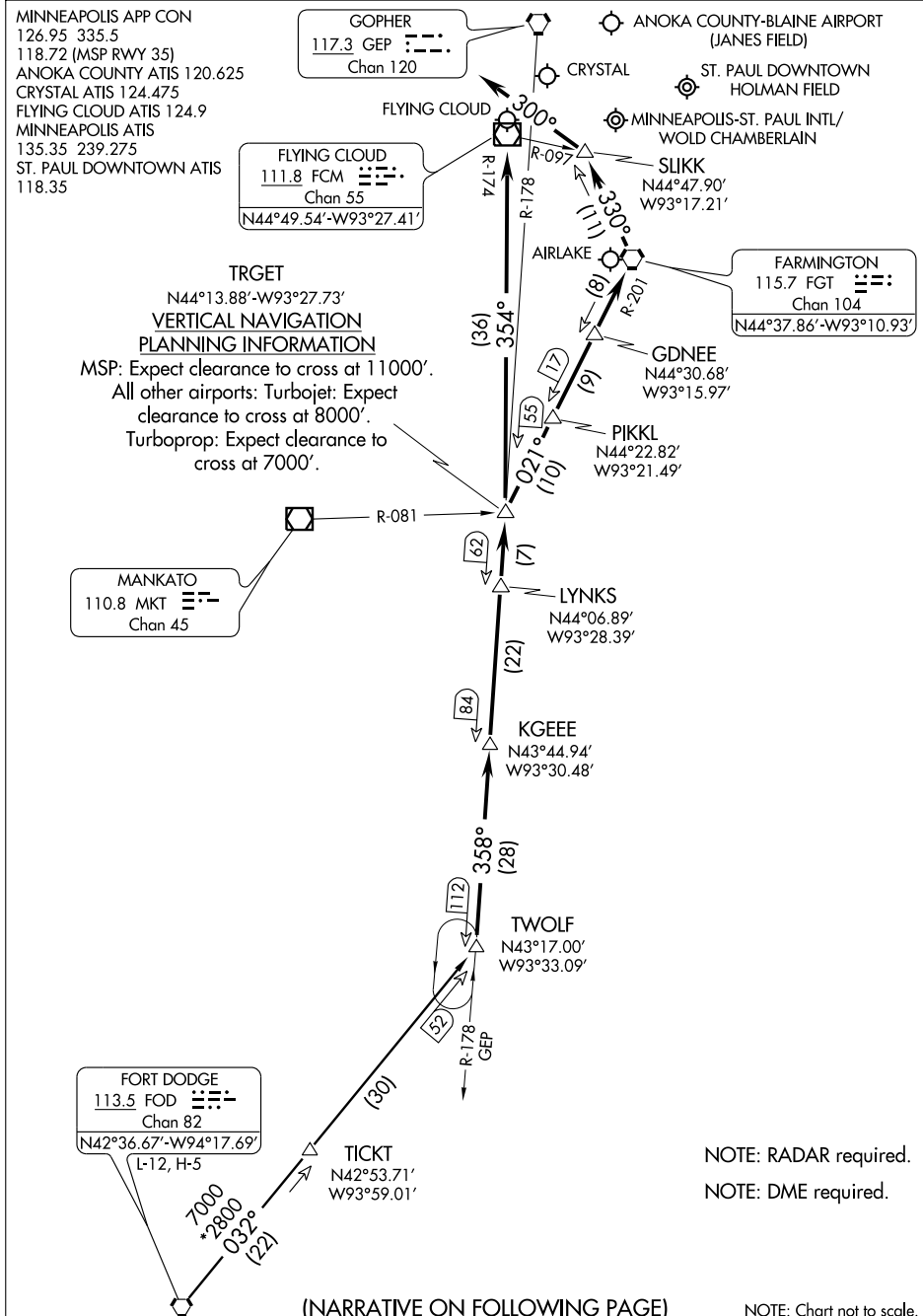
FAF to MAP 5.1 NM

Knots	60	90	120	150	180
Min:Sec	5:06	3:24	2:33	2:02	1:42

## TWOLF ONE ARRIVAL

ST-264 (FAA)

MINNEAPOLIS, MINNESOTA



ARRIVAL DESCRIPTION

FORT DODGE TRANSITION (FOD.TWOLF1): From over FOD VORTAC via FOD R-032 to TWOLF. Thence....

....From over TWOLF via GEP R-178 to KGEER, then via GEP R-178 to TRGET INT, then via FGT R-201 to FGT VORTAC. Thence....

LANDING MSP RWYS 12L/R: From over FGT VORTAC via FGT R-330 to SLIKK, thence via 300° heading for radar vectors to final approach course.

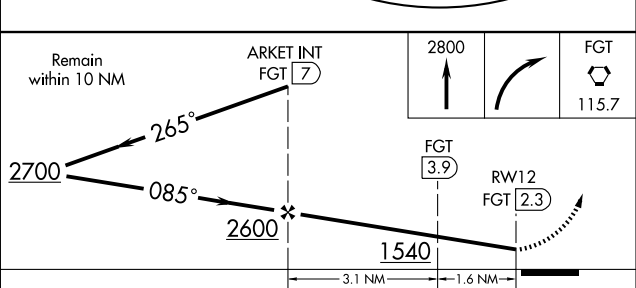
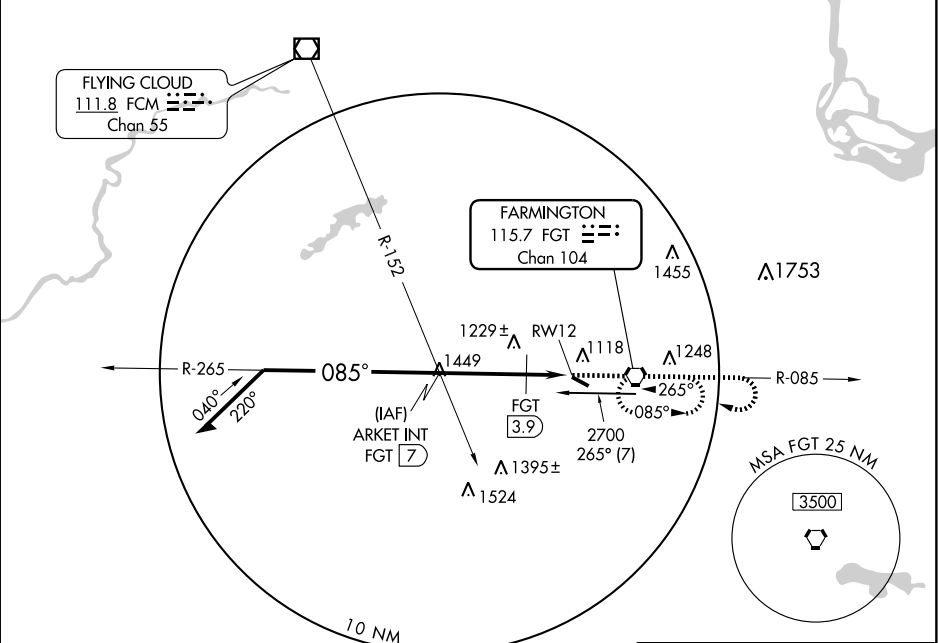
LANDING MSP RWYS 30L/R, 4, 22, 17, 35: Via radar vectors to final approach course.

ALL OTHER AIRPORTS: From over TRGET INT via FCM VOR/DME R-174 to FCM VOR/DME then expect radar vectors to final approach course.

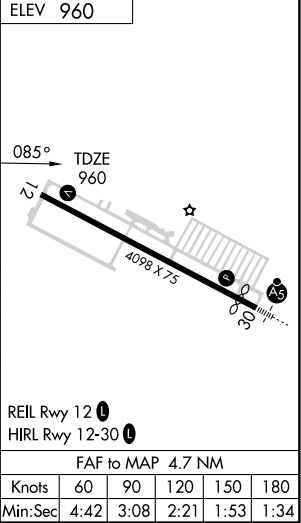
VORTAC FGT <b>115.7</b> Chan <b>104</b>	APP CRS <b>085°</b>	Rwy Idg TDZE <b>960</b> Apt Elev <b>960</b>	<b>4098</b>
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VOR or GPS RWY 12  
MINNEAPOLIS/AIRLAKE (LVN)

AWOS-3 <b>118.0</b>		MINNEAPOLIS APP CON <b>134.7 284.7</b>	CLNC DEL <b>118.95</b>	UNICOM <b>123.0</b> (CTAF) <b>1</b>
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CATEGORY	A	B	C	D
S-12	1540-1	580 (600-1)	1540-1½ 580 (600-1½)	1540-1¾ 580 (600-1¾)
CIRCLING	1540-1	580 (600-1)	1540-1½ 580 (600-1½)	1540-2 580 (600-2)
DME MINIMUMS				
S-12	1440-1	480 (500-1)	1440-1¼ 480 (500-1¼)	1440-1½ 480 (500-1½)
CIRCLING	1500-1	540 (600-1)	1500-1½ 540 (600-1½)	1520-2 560 (600-2)





## MINNEAPOLIS-ST. PAUL, MINNESOTA

NOTE: Chart not to scale.

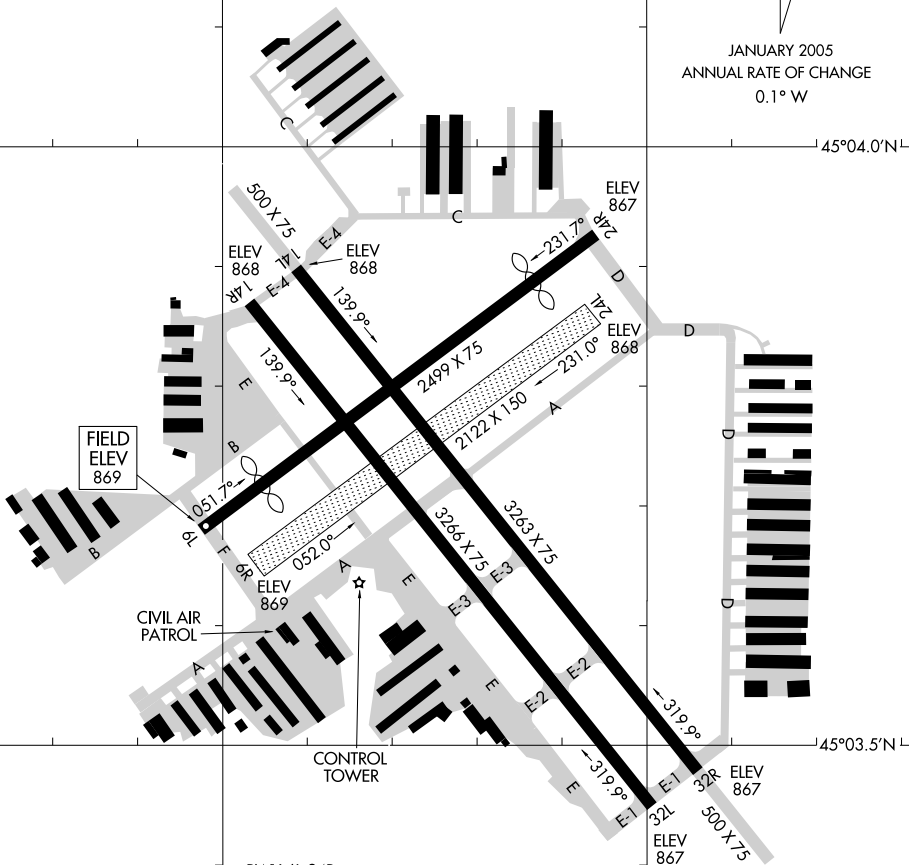
# AIRPORT DIAGRAM

AL-5158 (FAA)

MINNEAPOLIS/CRYSTAL (MIC)  
MINNEAPOLIS, MINNESOTA

ATIS  
124.475  
CRYSTAL TOWER ★  
120.7  
GND CON  
121.6  
CLNC DEL  
121.6 (When Tower Closed)

VAR 1.5° E  
JANUARY 2005  
ANNUAL RATE OF CHANGE  
0.1° W



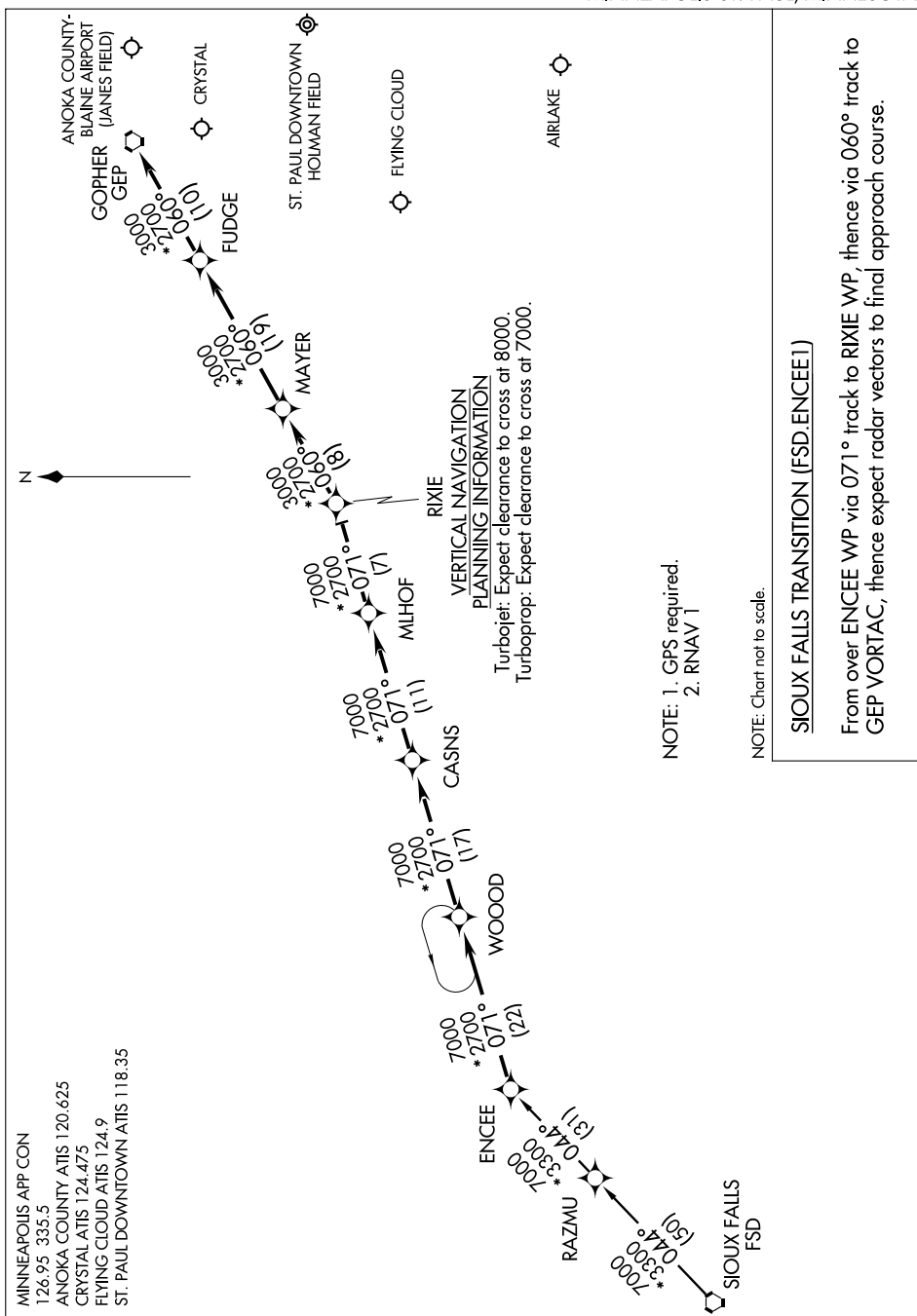
CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.  
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.

1011

93°21.5'W

93°21.0'W

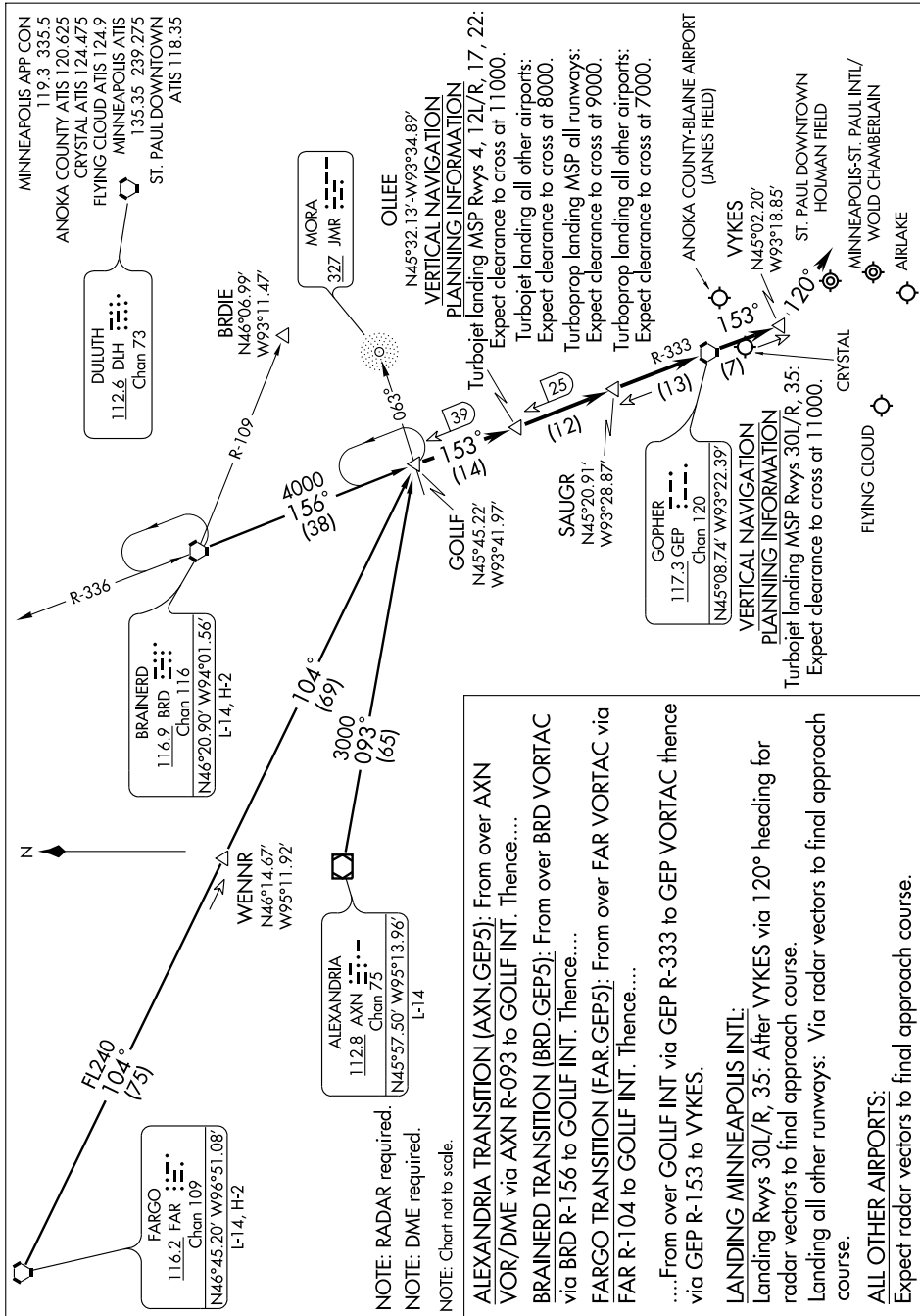
NC-1, 22 OCT 2009 to 19 NOV 2009



## GOPHER FIVE ARRIVAL

ST-264 (FAA)

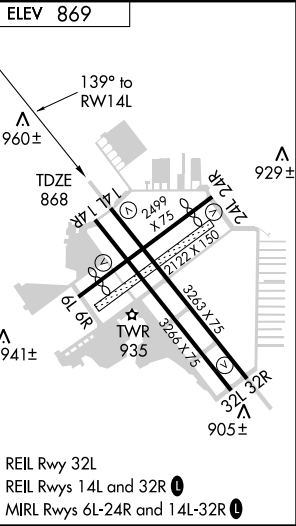
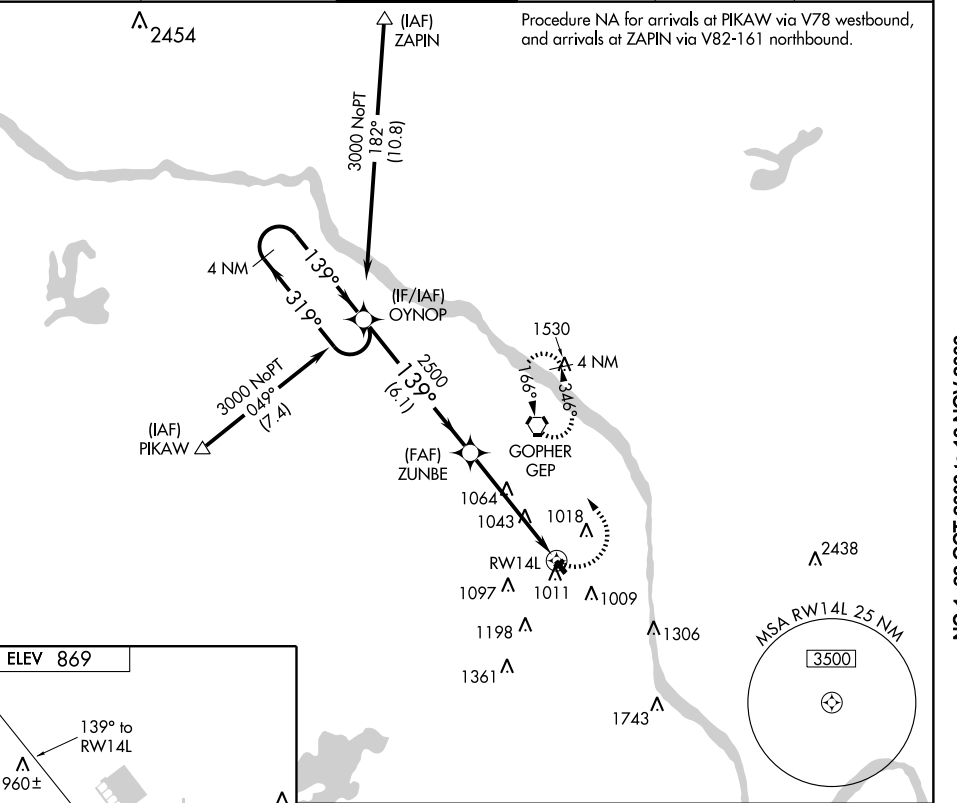
MINNEAPOLIS, MINNESOTA



APP CRS 139°	Rwy Idg TDZE Apt Elev	3263 868 869	MINNEAPOLIS/ CRYSTAL (MIC)	
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<div><div>▼</div><div>▲</div></div> <div>DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA. When local altimeter setting not received, use Anoka County-Blaine Airport (Janes Field) altimeter setting and increase all MDA 80 feet, increase circling Cat D visibility ¼ mile.</div>	MISSED APPROACH: Climbing left turn to 2700 direct GEP VORTAC and hold.
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ATIS 124.475	MINNEAPOLIS APP CON 126.5	CRYSTAL TOWER 120.7 (CTAF) 0	GND CON 121.6	CLNC DEL 121.6	UNICOM 122.95
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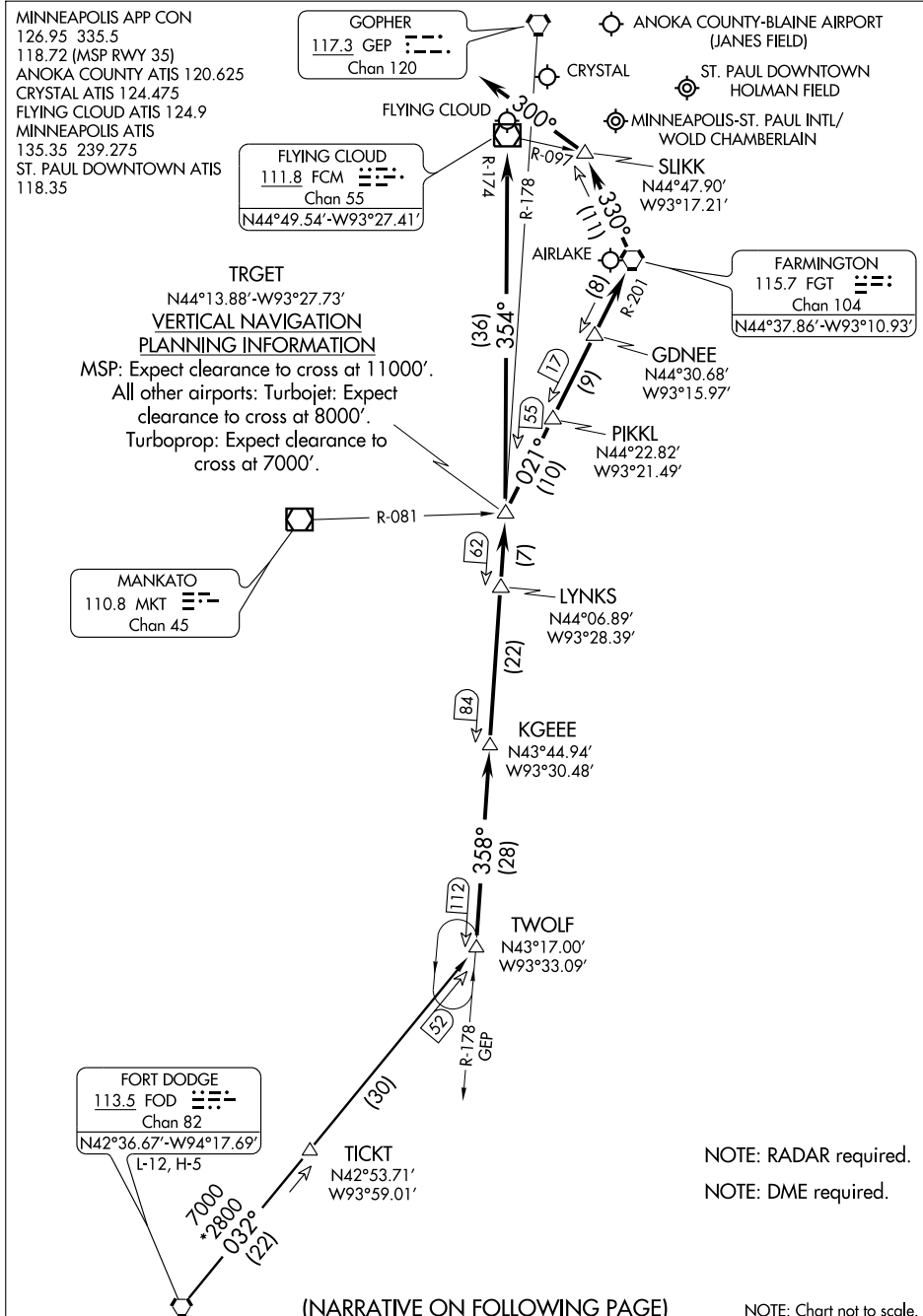


4 NM Holding Pattern		VGSI and descent angles not coincident.		2700	GEP
OYNOP		ZUNBE		RWY 14L	
3000		2500		3.04° TCH 40	
6.1 NM		4.9 NM			
CATEGORY	A	B	C	D	
LNAB MDA	1380-1	512 (600-1)	1380-1½ 512 (600-1½)	1380-1¾ 512 (600-1¾)	
CIRCLING	1380-1	511 (600-1)	1380-1½ 511 (600-1½)	1460-2 591 (600-2)	

## TWOLF ONE ARRIVAL

ST-264 (FAA)

MINNEAPOLIS, MINNESOTA



## ARRIVAL DESCRIPTION

FORT DODGE TRANSITION (FOD.TWOLF1): From over FOD VORTAC via FOD R-032 to TWOLF. Thence....

....From over TWOLF via GEP R-178 to KGEFF, then via GEP R-178 to TRGET INT, then via FGT R-201 to FGT VORTAC. Thence....

LANDING MSP RWYS 12L/R: From over FGT VORTAC via FGT R-330 to SLIKK, thence via 300° heading for radar vectors to final approach course.

LANDING MSP RWYS 30L/R, 4, 22, 17, 35: Via radar vectors to final approach course.

ALL OTHER AIRPORTS: From over TRGET INT via FCM VOR/DME R-174 to FCM VOR/DME then expect radar vectors to final approach course.

VORTAC GEP <b>117.3</b> Chan <b>120</b>	APP CRS <b>166°</b>	Rwy Idg TDZE Apt Elev	<b>N/A</b> <b>N/A</b> <b>869</b>
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VOR or GPS-A  
MINNEAPOLIS/CRYSTAL (MIC)

**MISSED APPROACH:** Climbing left turn to 2600 direct  
GEP VORTAC and hold

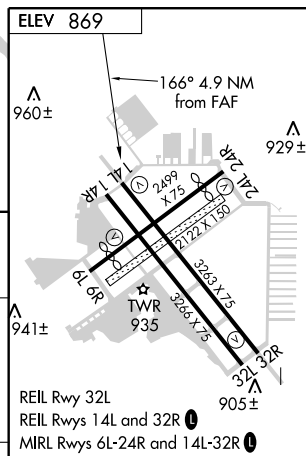
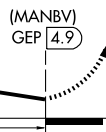
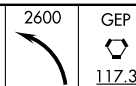
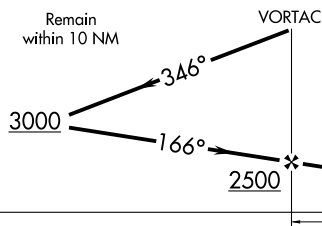
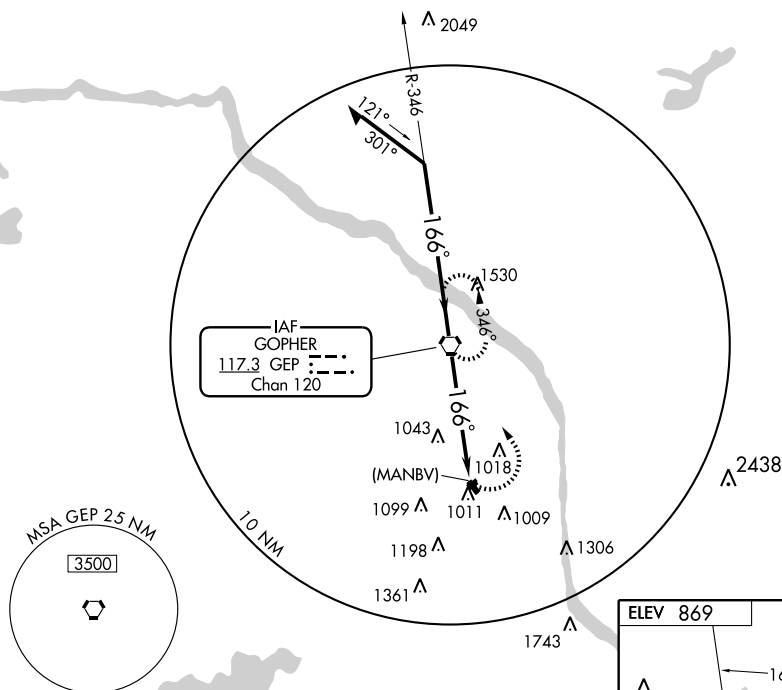
ATIS  
124.475

MINNEAPOLIS APP CON  
**126.5**

CRYSTAL TOWER  
**120.7 (CTAF) L**

GND CON  
**121.6**

CLNC DEL  
**121.6**

UNICOM  
122.95

CATEGORY	A	B	C	D	FAF to MAP 4.9 NM					
CIRCLING	1360-1	491 (500-1)	591 (600-2)	1460-2	Knots	60	90	120	150	180
					Min:Sec	4:54	3:16	2:27	1:58	1:38

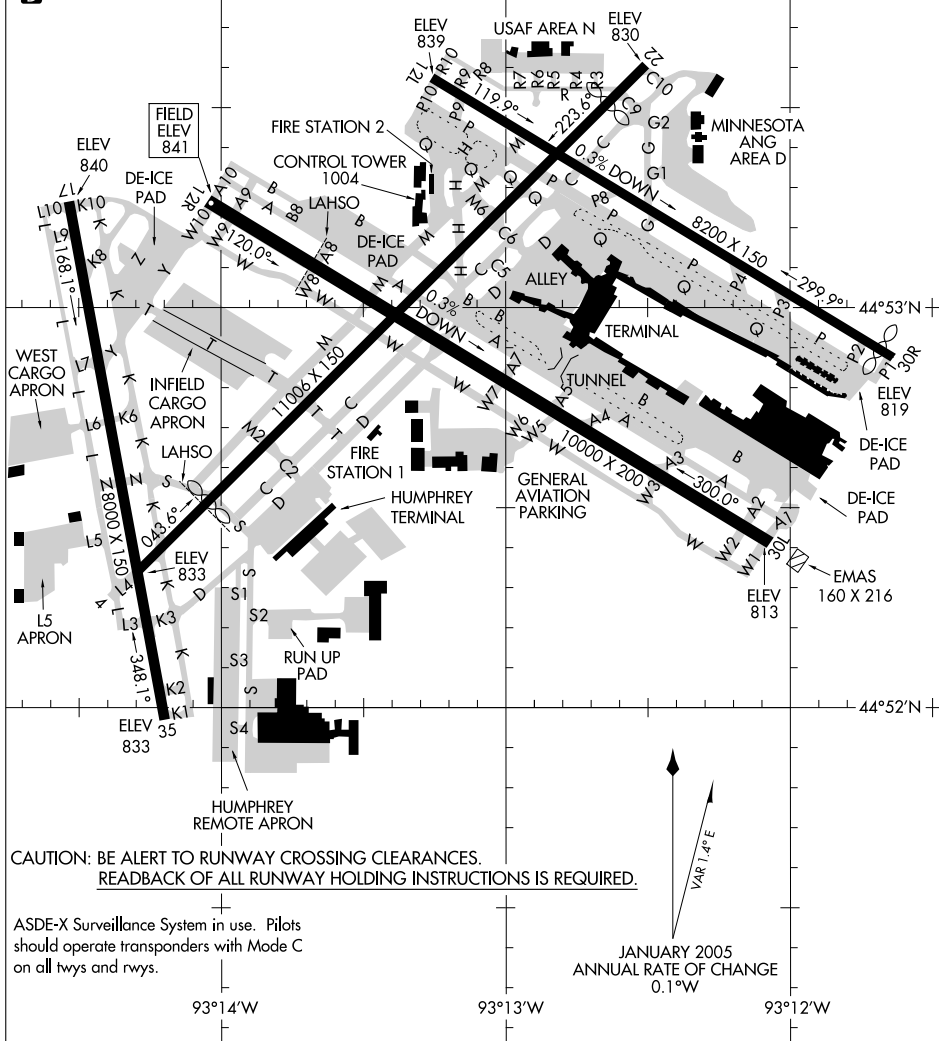


# AIRPORT DIAGRAM

ATIS  
 ARR 135.35 239.275  
 DEP 120.8  
 MINNEAPOLIS TOWER  
 123.95 273.55 (Rwy 12L-30R)  
 126.7 273.55 (Rwys 12R-30L, 4-22)  
 123.675 273.55 (Rwy 17-35)  
 GND CON  
 N 121.8 348.6  
 S 121.9 348.6  
 W 127.925 348.6  
 CLNC DEL  
 133.2

RWYS 4-22, 12L-30R, 12R-30L and 17-35  
S100, D200, ST175, DT400, DDT850

**D**



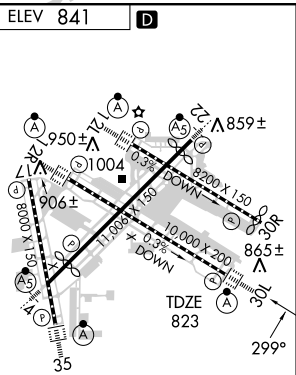
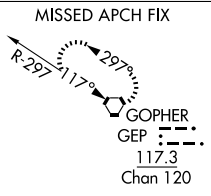
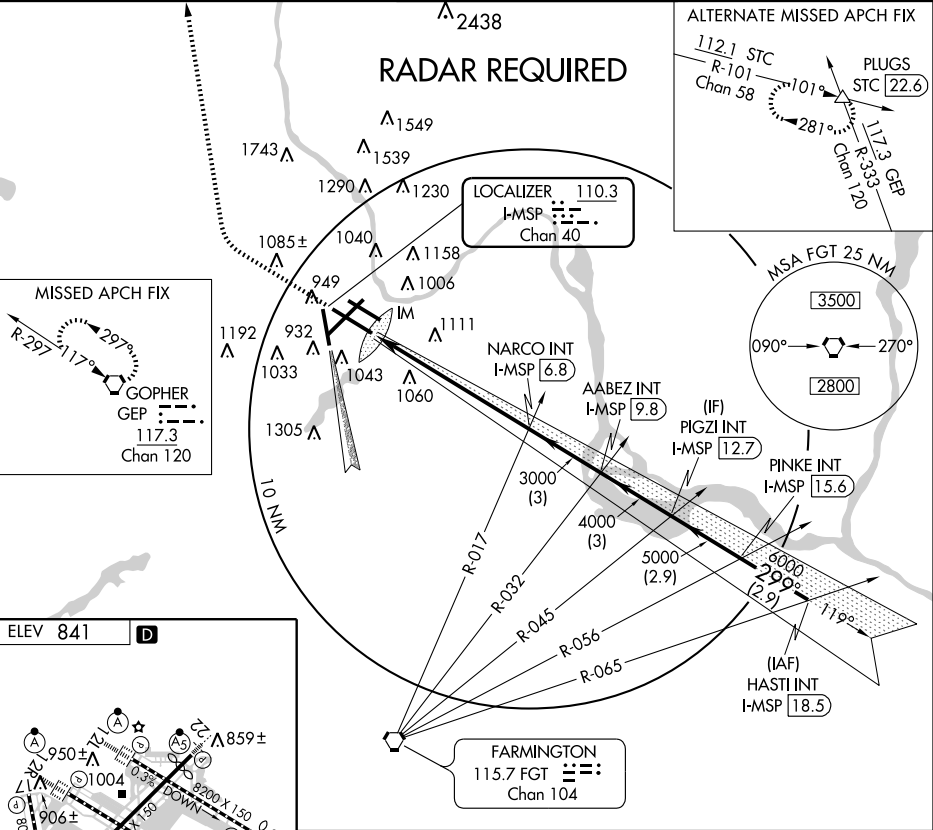
LOC/DME	I-MSP	APP CRS	Rwy Idg	10000
110.3		299°	TDZE	823
Chan 40			Apt Elev	841

# CONVERGING ILS RWY 30L

MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

<p>Simultaneous approach authorized with CONVERGING ILS Rwy 35.</p> <p><b>NA</b> RADAR required.</p> <p>For inoperative ALSF, increase visibility, all Cats to 1 1/2.</p>	<p>ALSF-2</p>	<p>MISSED APPROACH: Climb to 1300 then climbing right turn to 4000 direct GEP VORTAC and hold.</p>
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<p>ATIS</p> <p>ARR <b>135.35 239.275</b></p> <p>DEP <b>120.8</b></p>	<p>MINNEAPOLIS APP CON</p> <p><b>119.3 335.5</b></p>	<p>MINNEAPOLIS TOWER</p> <p><b>123.95 273.55</b> (12L-30R)</p> <p><b>126.7 273.55</b> (12R-30L, 4-22)</p> <p><b>123.675 273.55</b> (17-35)</p>	<p>GND CON</p> <p><b>N 121.8 348.6</b></p> <p><b>S 121.9 348.6</b></p> <p><b>W 127.925</b></p>	<p>CLNC DEL</p> <p><b>133.2</b></p>
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HIRL all Rwy  
REIL Rwy 17 and 30R  
TDZ/CL Rwy 12L, 12R, 30L, and 35

<p>1300</p> <p>4000</p> <p>GEP</p> <p>117.3</p>	<p>* When authorized by ATC, intercept glidepath at AABEZ, 4000; or PIGZI, 5000; or PINKE, 6000.</p>	<p>HASTI INT I-MSP 18.5</p>
<p>VGSI and ILS glidepath not coincident</p>	<p>NARCO INT I-MSP 6.8</p> <p>AABEZ INT I-MSP 9.8</p> <p>PIGZI INT I-MSP 12.7</p> <p>PINKE INT I-MSP 15.6</p> <p>HASTI INT I-MSP 18.5</p>	<p>7000</p> <p>6000*</p> <p>5000*</p> <p>4000*</p> <p>3000</p> <p>299°</p> <p>GS 3.00°</p> <p>TCH 54</p>
<p>CATEGORY</p> <p>A</p> <p>B</p> <p>C</p> <p>D</p> <p>E</p>	<p>3000</p> <p>4000</p> <p>5000</p> <p>6000</p> <p>7000</p>	<p>1173/40 350 (400-3/4)</p>



# CONVERGING ILS RWY 35

## MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

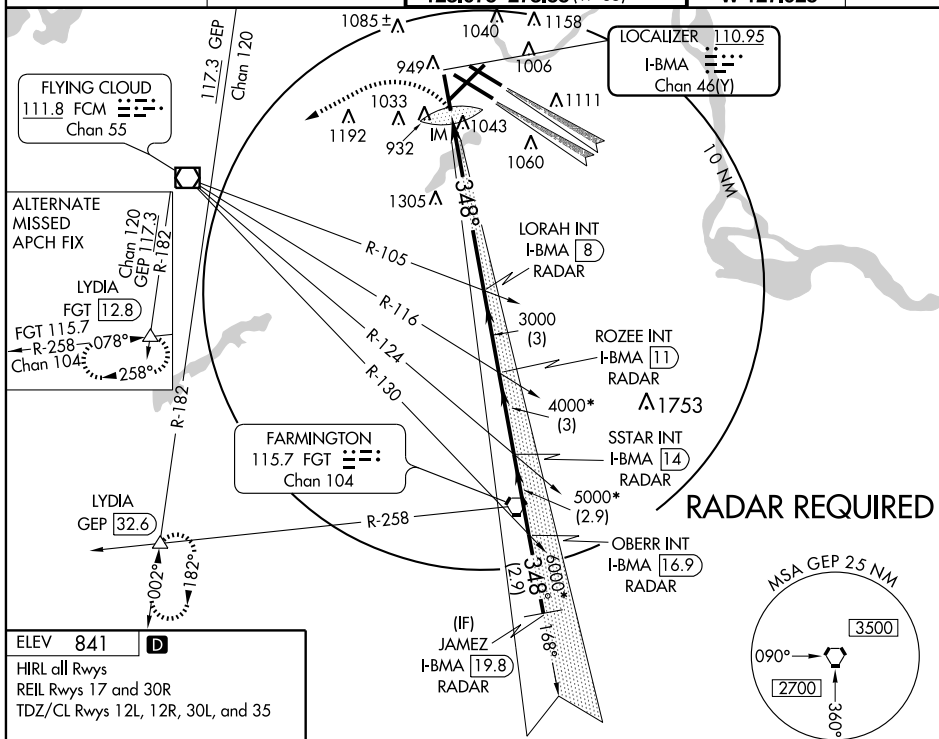
ALSF-2

**MISSED APPROACH:** Climbing left turn to 5000 via heading 240° and GEP R-182 to LYDIA INT/GEP 32.6 DME and hold.

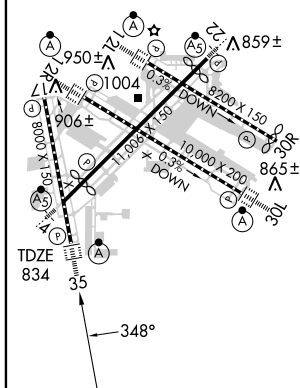
MINNEAPOLIS APP CON  
119.3 335.5



MINNEAPOLIS TOWER  
**123.95 273.55** (12L-30R)  
**126.7 273.55** (12R-30L, 4-22)  
**123.675 273.55** (17-35)

GND CON  
N 121.8 348.6  
S 121.9 348.6  
W 127.925

CLNC DEL  
**133.2**

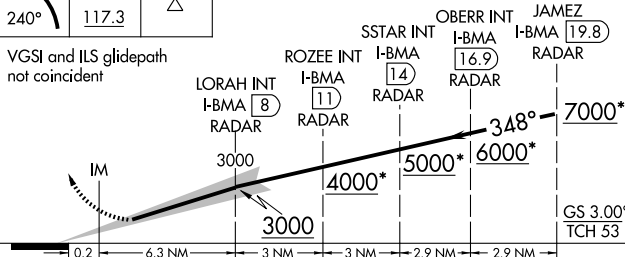
ELEV 841	<b>D</b>
HIRL all Rwy's	
REIL Rwy's 17 and 30R	
TDZ/CL Rwy's 12L, 12R, 30L, and 35	



5000  240°	GEP R-182 <u>117.3</u>	LYDIA 
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\* When authorized by ATC, intercept glidepath at ROZEE, 4000, or SSTAR, 5000, or OBERR, 6000.

### VGSI and ILS glidepath not coincident

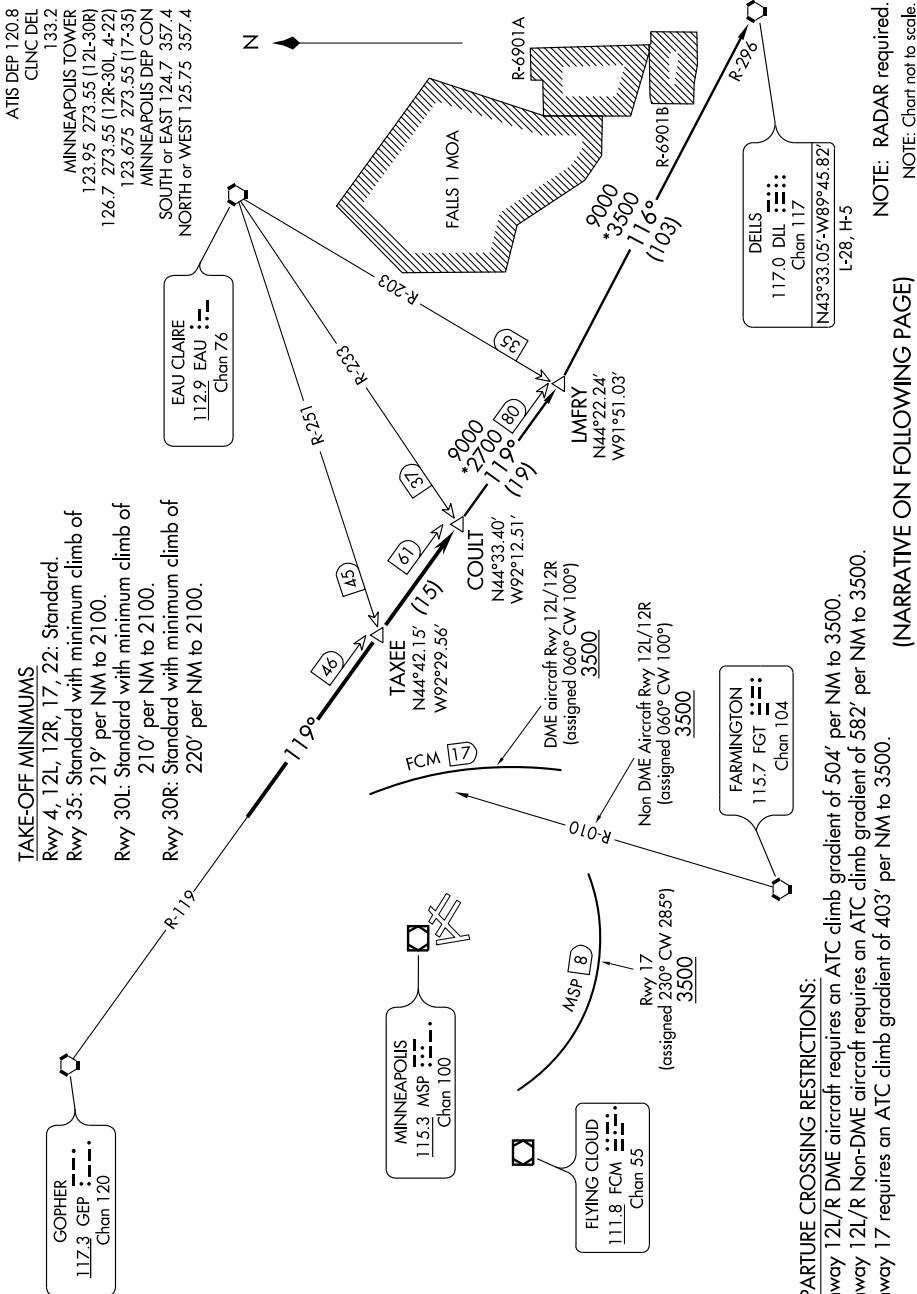


CATEGORY

1684-3 850 (900-3)

# COULT TWO DEPARTURE

MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)  
SL-264 (FAA) MINNEAPOLIS, MINNESOTA



(NARRATIVE ON FOLLOWING PAGE)



## DEPARTURE ROUTE DESCRIPTION

**TAKE-OFF ALL RUNWAYS:** Fly assigned heading for radar vectors to intercept GEP R-119 to COULT INT/GEP 61 DME. Turbojet aircraft maintain 7000 or lower assigned altitude, all other aircraft maintain 5000 or lower assigned altitude.

**DME EQUIPPED AIRCRAFT RWY 12L/12R DEPARTURES:** Initially assigned heading 060° clockwise to 100°, cross FCM 17 DME at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence. . . .

**TAKE-OFF RUNWAY 17:** Initially assigned heading 230° clockwise to 285° cross MSP 8 DME at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence. . . .

**NON DME EQUIPPED AIRCRAFT RWY 12L/12R DEPARTURES:** Initially assigned heading 060° clockwise to 100°: cross FGT R-010 at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence. . . .

**TAKE-OFF RUNWAYS 4, 22, 30L/30R, 35:** Initially assigned heading. Thence. . . .

. . . .via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

**DELLS TRANSITION (COULT2.DLL):** From over COULT INT via GEP R-119 and DLL R-296 to DLL VORTAC.

### TAKE-OFF OBSTACLE NOTES

RWY 4: Multiple trees beginning 800' from DER, 264' left of centerline, up to 75' AGL/921' MSL.

Rod on building 2528' from DER, 1175' left of centerline, 78' AGL/922' MSL.

Fence 803' from DER, 585' left of centerline, 15' AGL/860' MSL.

Antenna on OL building 456' from DER, 319' left of centerline, 13' AGL/850' MSL.

Light poles 1932' from DER, 718' left of centerline, 45' AGL/885' MSL.

Stack 4535' from DER, 481' left of centerline, 139' AGL/949' MSL.

RWY 22: Tree 2906' from DER, 833' right of centerline, 94' AGL/934' MSL.

Hopper 1716' from DER, 456' left of centerline, 48' AGL/888' MSL.

RWY 17: Antenna 1272' from DER, 562' right of centerline, 57' AGL/891' MSL.

Pole 409' from DER, 530' right of centerline, 29' AGL/866' MSL.

Wind direction indicator on building 2619' from DER, 881' left of centerline, 97' AGL/918' MSL.

Building 2619' from DER, 859' left of centerline, 84' AGL/905' MSL.

Light 1176' from DER, 291' right of centerline, 11' AGL/875' MSL.

Tree 2619' from DER, on centerline, 79' AGL/900' MSL.

RWY 30L: Multiple trees beginning 1113' from DER, 701' left of centerline, up to 80' AGL/919' MSL.

Tree 1230' from DER, 633' right of centerline, 30' AGL/877' MSL.

Ground 28' from DER, 490' right of centerline 0' AGL/844' MSL.

RWY 30R: Building 1056' from DER, 198' left of centerline, 13' AGL/853' MSL.

Multiple trees beginning 3010' from DER, 334' left of centerline, up to 94' AGL/940' MSL.

Light pole 1849' from DER, 698' right of centerline, 17' AGL/871' MSL.

Fence 1327' from DER, 667' right of centerline, 8' AGL/857' MSL.

Tree 3703' from DER, 350' right of centerline, 67' AGL/914' MSL.

Rod on pole 3143' from DER, 47' right of centerline, 38' AGL/898' MSL.

RWY 35: Tree 175' from DER, 398' right of centerline, 73' AGL/883' MSL.

Multiple trees beginning 1989' from DER, 351' left of centerline, up to 65' AGL/902' MSL.

Multiple buildings beginning 5.5 NM from DER, 1787' left of centerline, up to 811' AGL/1743' MSL.

RWY 12R: Multiple trees beginning 1477' from DER, 407' left of centerline, up to 86' AGL/851' MSL.

Multiple trees beginning 1426' from DER, 124' right of centerline, up to 111' AGL/847' MSL.

Light pole 1408' from DER, 746' right of centerline, 85' AGL/843' MSL.

Radar reflector 983' from DER, 32' left of centerline, 15' AGL/829' MSL.

Pipe on building, 826' from DER, 576' left of centerline, 10' AGL/825' MSL.

OL on LOC 766' from DER, on centerline, 7' AGL/821' MSL.



## DEPARTURE ROUTE DESCRIPTION

TAKE-OFF ALL RUNWAYS: Fly assigned heading for radar vectors to intercept MSP R-281 and DWN R-095 to DWN VORTAC. Turbojet aircraft maintain 7000 or lower assigned altitude, all other aircraft maintain 5000 or lower assigned altitude.

DME EQUIPPED AIRCRAFT RWY 12L/12R DEPARTURES: Initially assigned heading 060° clockwise to 100°, cross FCM 17 DME at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence. . . .

TAKE-OFF RUNWAY 17: Initially assigned heading 230° clockwise to 285° cross MSP 8 DME at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence...

NON DME EQUIPPED AIRCRAFT RWY 12L/12R DEPARTURES: Initially assigned heading 060° clockwise to 100°, cross FGT R-010 at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence. . . .

TAKE-OFF RUNWAYS 4, 22, 30L/R, 35: Initially assigned heading, thence. . . .

. . . . via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

ABERDEEN TRANSITION (DWN2.ABR): From over DWN VORTAC via DWN R-271 and ABR R-088 to ABR VORTAC.

## TAKE-OFF OBSTACLE NOTES

RWY 4: Multiple trees beginning 800' from DER, 264' left of centerline, up to 75' AGL/921' MSL.

Rod on building 2528' from DER, 1175' left of centerline, 78' AGL/922' MSL.

Fence 803' from DER, 585' left of centerline, 15' AGL/860' MSL.

Antenna on OL building 456' from DER, 319' left of centerline, 13' AGL/850' MSL.

Light poles 1932' from DER, 718' left of centerline, 45' AGL/885' MSL.

Stack 4535' from DER, 481' left of centerline, 139' AGL/949' MSL.

RWY 22: Tree 2906' from DER, 833' right of centerline, 94' AGL/934' MSL.

Hopper 1716' from DER, 456' left of centerline, 48' AGL/888' MSL.

RWY 17: Antenna 1272' from DER, 562' right of centerline, 57' AGL/891' MSL.

Pole 409' from DER, 530' right of centerline, 29' AGL/866' MSL.

Wind direction indicator on building 2619' from DER, 881' left of centerline, 97' AGL/918' MSL.

Building 2619' from DER, 859' left of centerline, 84' AGL/905' MSL.

Light 1176' from DER, 291' right of centerline, 11' AGL/875' MSL.

Tree 2619' from DER, on centerline, 79' AGL/900' MSL.

RWY 30L: Multiple trees beginning 1113' from DER, 701' left of centerline, up to 80' AGL/919' MSL.

Tree 1230' from DER, 633' right of centerline, 30' AGL/877' MSL.

Ground 28' from DER, 490' right of centerline 0' AGL/844' MSL.

RWY 30R: Building 1056' from DER, 198' left of centerline, 13' AGL/853' MSL.

Multiple trees beginning 3010' from DER, 334' left of centerline, up to 94' AGL/940' MSL.

Light pole 1849' from DER, 698' right of centerline, 17' AGL/871' MSL.

Fence 1327' from DER, 667' right of centerline, 8' AGL/857' MSL.

Tree 3703' from DER, 350' right of centerline, 67' AGL/914' MSL.

Rod on pole 3143' from DER, 47' right of centerline, 38' AGL/898' MSL.

RWY 35: Tree 175' from DER, 398' right of centerline, 73' AGL/883' MSL.

Multiple trees beginning 1989' from DER, 351' left of centerline, up to 65' AGL/902' MSL.

Multiple buildings beginning 5.5 NM from DER, 1787' left of centerline, up to 811' AGL/1743' MSL.

RWY 12R: Multiple trees beginning 1477' from DER, 407' left of centerline, up to 86' AGL/851' MSL.

Multiple trees beginning 1426' from DER, 124' right of centerline, up to 111' AGL/847' MSL.

Light pole 1408' from DER, 746' right of centerline, 85' AGL/843' MSL.

Radar reflector 983' from DER, 32' left of centerline, 15' AGL/829' MSL.

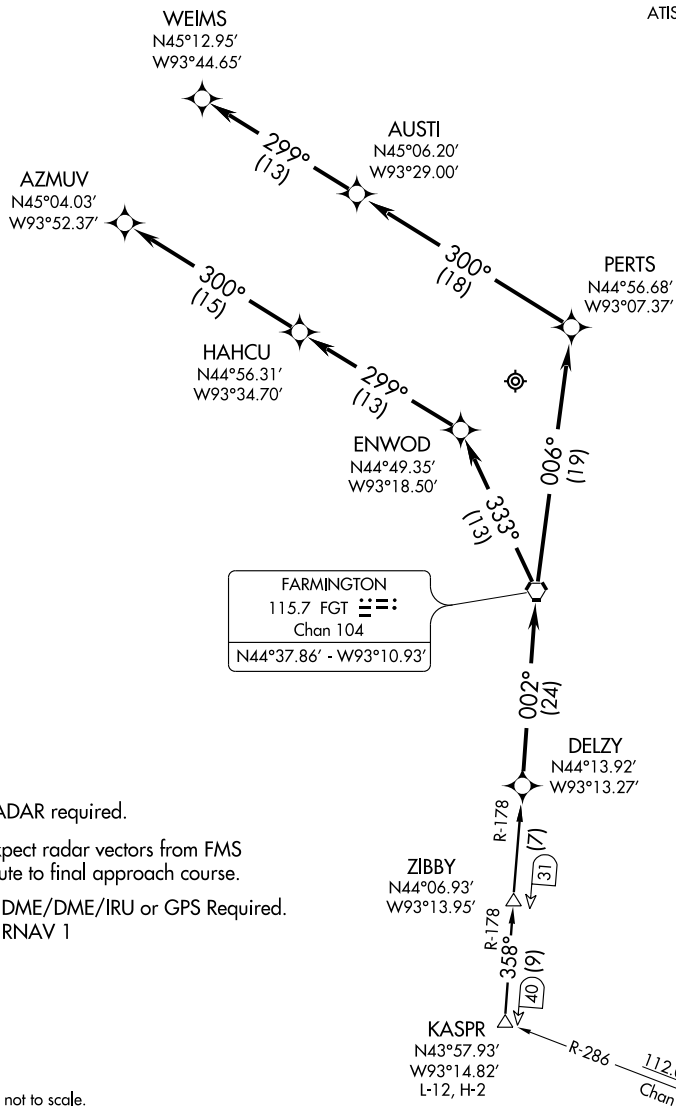
Pipe on building, 826' from DER, 576' left of centerline, 10' AGL/825' MSL.

OL on LOC 766' from DER, on centerline, 7' AGL/821' MSL.



# DELZY ONE (FMS) ARRIVAL

 MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN  
 ST-264 (FAA) MINNEAPOLIS, MINNESOTA

 MINNEAPOLIS APP CON  
 119.3 335.5  
 ATIS 135.35 239.275


NOTE: RADAR required.

NOTE: Expect radar vectors from FMS route to final approach course.

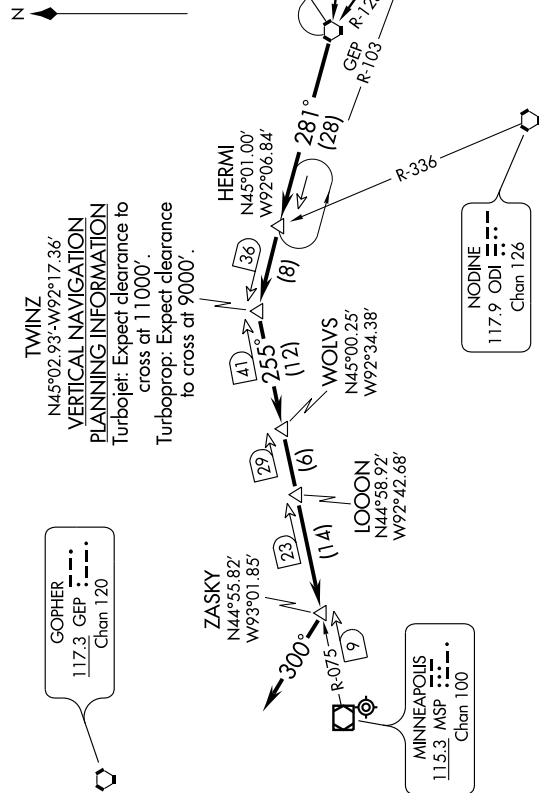
NOTE: 1. DME/DME/IRU or GPS Required.  
2. RNAV 1

Via the KASPR STAR from over DELZY WP: Thence . . .

FOR RUNWAY 12L ARRIVALS: To FGT VORTAC to PERTS WP to AUSTI WP to WEIMS WP.

FOR RUNWAY 12R ARRIVALS: To FGT VORTAC to ENWOD WP to HAHCU WP to AZMUW WP.

## EAU CLAIRE EIGHT ARRIVAL

MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN  
ST-264 (FAA) MINNEAPOLIS, MINNESOTAMINNEAPOLIS APP CON  
126.95 335.5  
ATIS 135.35 239.275

**BADGER TRANSITION (BAE EAU8):** From over BAE VORTAC via BAE R-307 and EAU R-123 to EAU VORTAC. Thence....

**GREEN BAY TRANSITION (GRB EAU8):** From over GRB VORTAC via GRB R-278 and EAU R-093 to EAU VORTAC. Thence....

....From over EAU VORTAC via the EAU R-281 to TWINZ/36 DME, then via the MSP R-075 to ZASKY/9 DME. Thence....

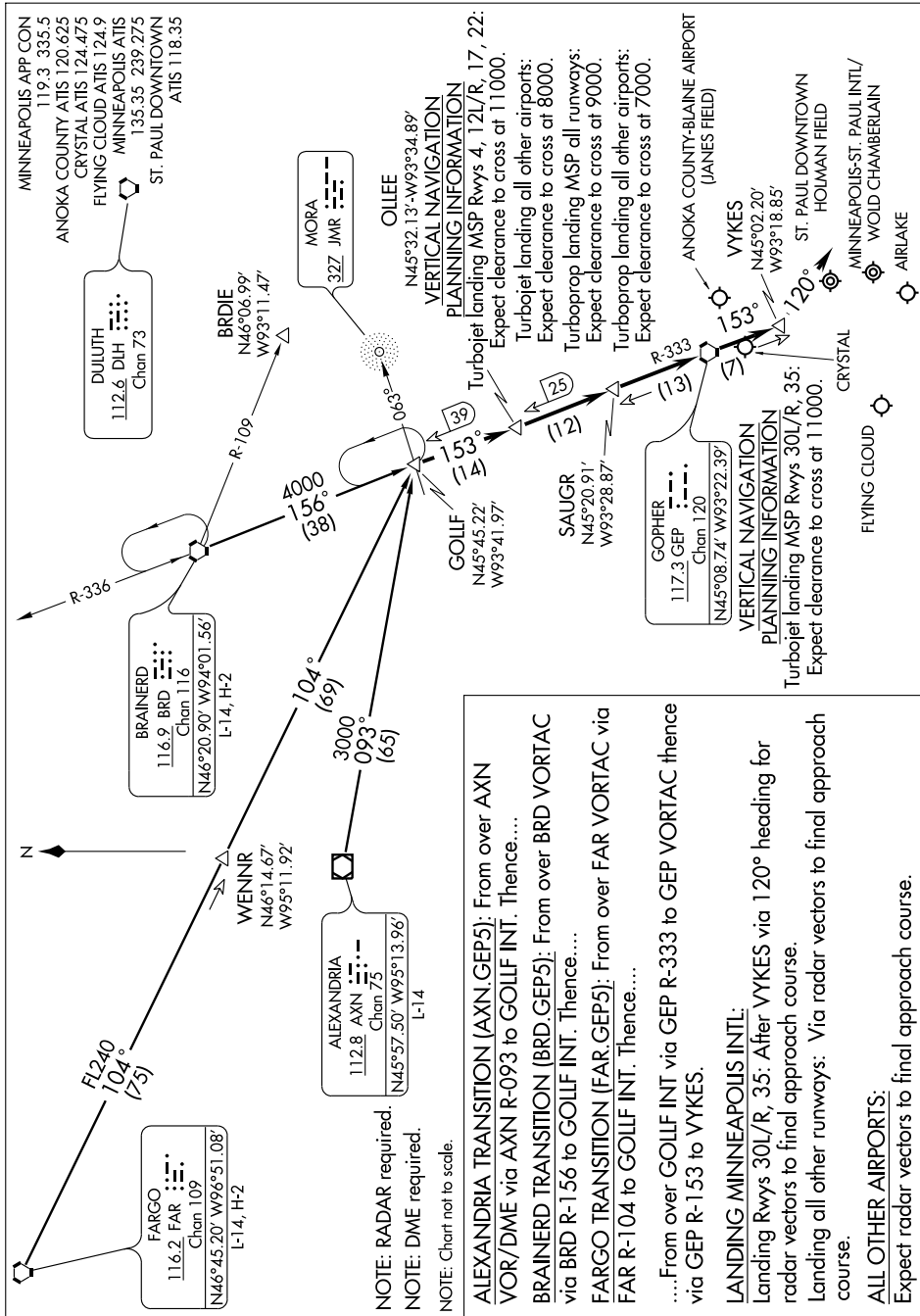
**LANDING RUNWAY 12L/R:** After ZASKY/9 DME via 300° heading for radar vectors.

**LANDING RUNWAY 30L/R, 35:** Expect radar vectors to final approach course.

**ALL OTHER MSP RUNWAYS:** Expect radar vectors to final approach course.

**BADGER**  
116.4 BAE  
Chan 111  
N43°07.01' W88°17.06'  
L-28, H-5

NOTE: Chart not to scale.



LOC/DME I-PJL	APP CRS	Rwy Idg	7620
110.7	119°	TDZE	839
Chan 44		Apt Elev	841

MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

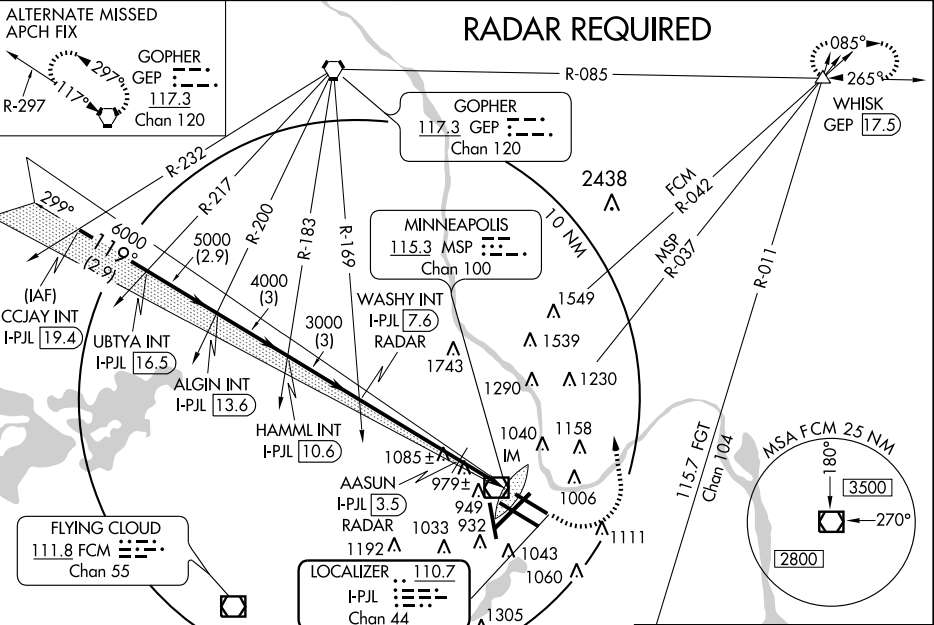
**T** For inoperative ALSF, increase S-ILS 12L Cat E visibility to RVR 4000 and S-LOC 12L Cat E visibility to 2¼.

**A**

ALSF-2

**MISSED APPROACH:** Climb to 1500, then climbing left turn to 4000 via heading 350° and FCM R-042 to WHISK Int/GEOP 17.5 DME and hold.

ATIS ARR <b>135.35 239.275</b> DEP <b>120.8</b>	MINNEAPOLIS APP CON <b>119.3 335.5</b>	MINNEAPOLIS TOWER <b>123.95 273.55</b> (12L-30R) <b>126.7 273.55</b> (12R-30L, 4-22) <b>123.675 273.55</b> (17-35)	GND CON <b>N 121.8 348.6</b> <b>S 121.9 348.6</b> <b>W 127.925</b>	CLNC DEL <b>133.2</b>
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For inoperative ALSF, increase S-ILS 12R Cat E visibility to RVR 4000 and S-LOC 12R Cat E visibility to 2.

ALSF-2

MISSED APPROACH: Climb to 1500, then climbing right turn to 5000 direct FGT VORTAC and hold.

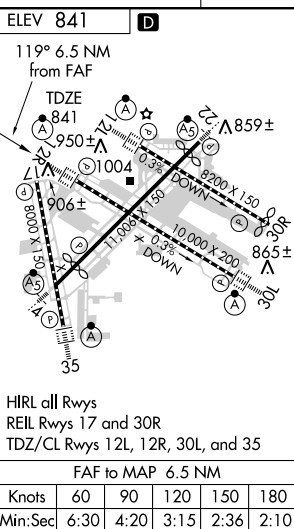
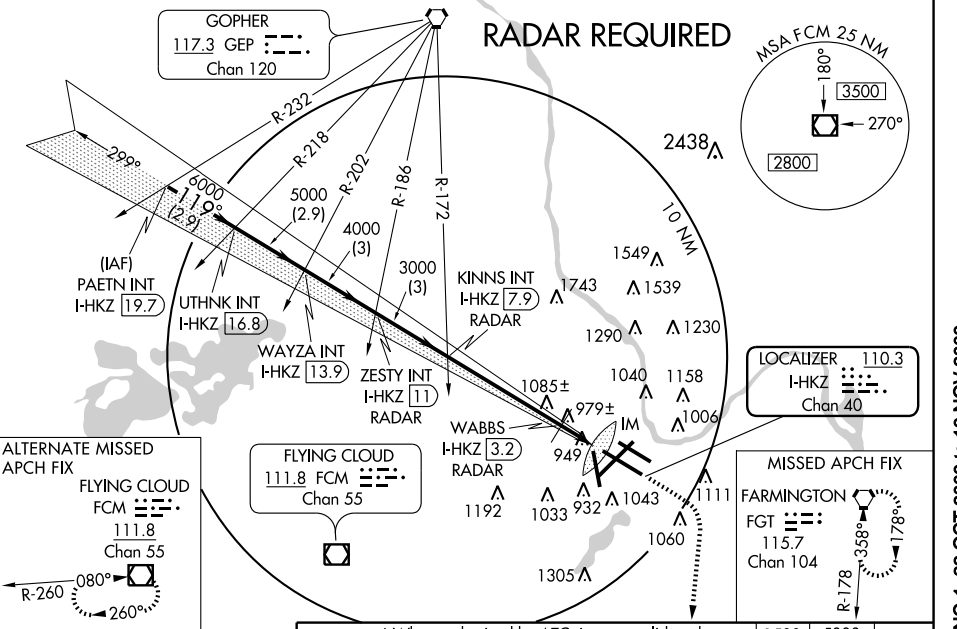
ATIS  
ARR 135.35 239.275  
DEP 120.8

MINNEAPOLIS APP CON  
119.3 335.5

MINNEAPOLIS TOWER  
123.95 273.55 (12L-30R)  
126.7 273.55 (12R-30L, 4-22)  
123.675 273.55 (17-35)

GND CON  
N 121.8 348.6  
S 121.9 348.6  
W 127.925

CLNC DEL  
133.2



* When authorized by ATC, intercept glidepath at ZESTY, 4000; or WAYZA, 5000; or UTHNK, 6000.				
PAETN INT I-HKZ 19.7 UTHNK INT I-HKZ 16.8 WAYZA INT I-HKZ 13.9 ZESTY INT I-HKZ 11 KINNS INT I-HKZ 7.9 WABBS I-HKZ 3.2 FARMINGTON FGT 115.7				
7000 119° 6000 5000 4000 3000 1420				
GS 3.00° TCH 56 VGSI and ILS glidepath not coincident 2.9 NM 2.9 NM 3 NM 3 NM 4.7 NM 0.2 1.5 0.1				
CATEGORY	A	B	C	D E
S-ILS 12R	1041/18 200 (200-½)			
S-LOC 12R	1420/24 579 (600-½)	1420/50 579 (600-1)	1420/60 579 (600-1¼)	1420-1½ 579 (600-1½)
CIRCLING	1420-1 579 (600-1)	1420-1½ 579 (600-1½)	1460-2 619 (700-2)	1660-3 819 (900-3)
WABBS FIX MINIMUMS				
S-LOC 12R	1240/24 399 (400-½)	1240/40 399 (400-¾)	1240/50 399 (400-1)	
CIRCLING	1360-1 519 (600-1)	1360-1½ 519 (600-1½)	1460-2 619 (700-2)	1660-3 819 (900-3)

NC-1: 22 OCT 2009 to 19 NOV 2009

LOC/DME I-MSP <b><u>110.3</u></b> Chan <b>40</b>	APP CRS <b>299°</b>	Rwy Idg <b>10000</b> TDZE <b>823</b> Apt Elev <b>841</b>
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ILS or LOC RWY 30L  
MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

**T** For inoperative ALSF, increase S-ILS 30L Cat E visibility  
**A** to RVR 4000 and S-LOC 30L Cat E visibility to 2.

ALSF-2

**MISSED APPROACH:** Climb to 1300, then climb to 4000 via heading 295° and GEP VORTAC R-180 to GEP and hold.

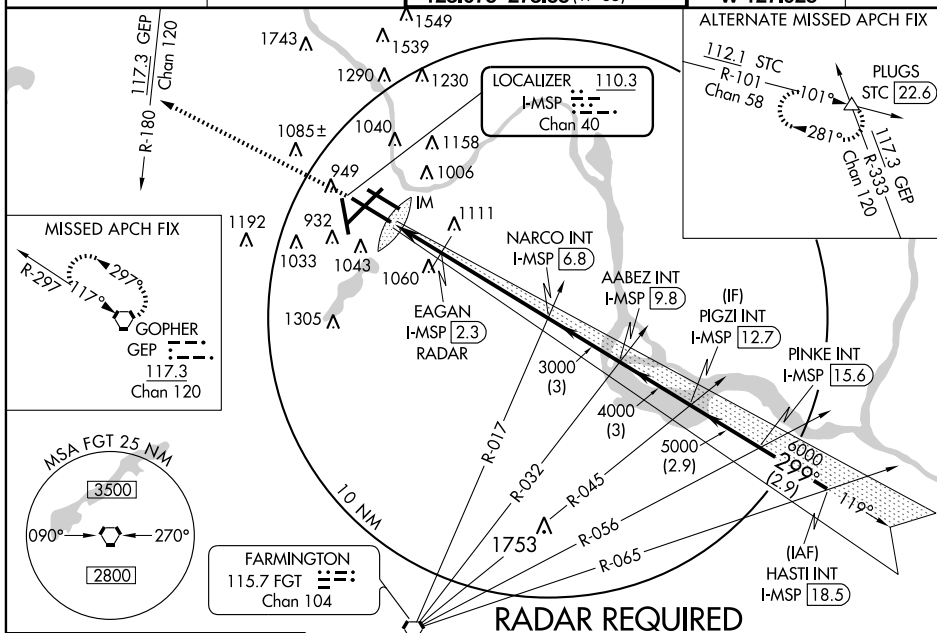
ATIS  
ARR **135.35 239.275**  
DEP **120.8**

MINNEAPOLIS APP CON  
119.3 335.5

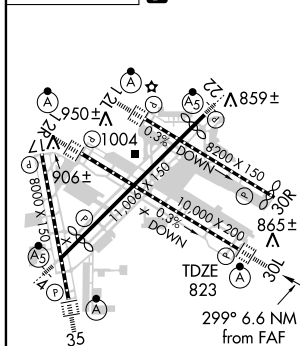
MINNEAPOLIS TOWER  
**123.95 273.55** (12L-30R)  
**126.7 273.55** (12R-30L, 4-22)  
**123.675 273.55** (17-35)

GND CON	
N	121.8 348.6
S	121.9 348.6
W	127.925

CLNC DEL  
**133.2**

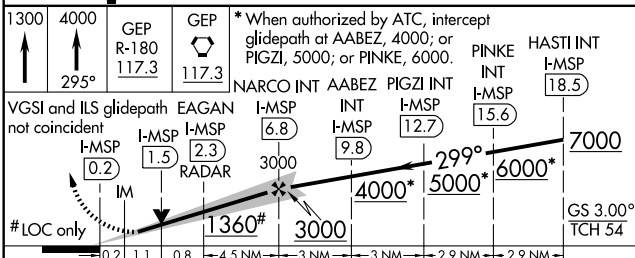


ELEV	841	D
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HIRL all Rwy's  
REIL Rwy's 17 and 30R  
TDZ/CL Rwy's 12L, 12R, 30L, and 35

FAF to MAP 6.6 NM					
Knots	60	90	120	150	180
Min:Sec	6:36	4:24	3:18	2:38	2:12

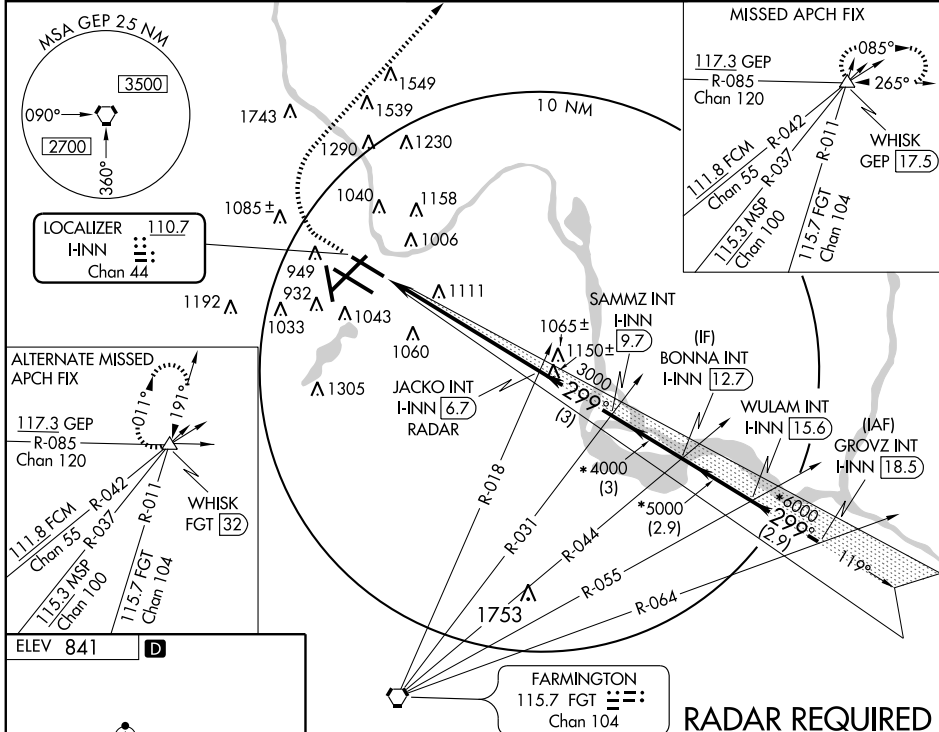


CATEGORY	A	B	C	D	E
S-ILS 30L	1023/18 200 (200-½)				
S-LOC 30L	1360/24 537 (600-½)	1360/50 537 (600-1)	1360/60 537 (600-1¼)	1360-1½	537 (600-1½)
CIRCLING	1360-1 519 (600-1)	1360-1½ 519 (600-1½)	1460-2 619 (700-2)	1660-3	819 (900-3)
EAGAN FIX MINIMUMS					
S-LOC 30L	1280/24 457 (500-½)	1280/40 457 (500-¾)	1280/50 457 (500-1)		
CIRCLING	1360-1 519 (600-1)	1360-1½ 519 (600-1½)	1460-2 619 (700-2)	1660-3	819 (900-3)

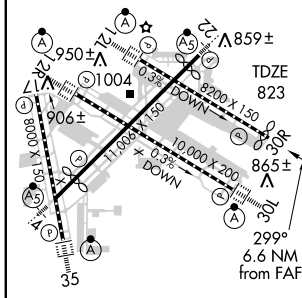
ILS or LOC RWY 30R  
MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

**MISSED APPROACH:** Climb to 1300, then climbing right turn to 4000 via heading 040° and GEP VORTAC R-085 to WHISK INT/17.5 DME and hold.

CLNC DEL  
**133.2**



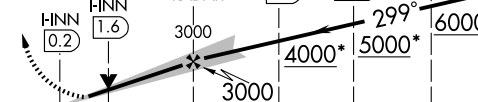
NC-1. 22 OCT 2009 to 19 NOV 2009



HIRL all Rwys  
REIL Rwys 17 and 30R  
TDZ/CL Rwys 12L, 12R, 30L, and 35

FAF to MAP 6.6 NM

Knots	60	90	120	150	180
Min:Sec	6:36	4:24	3:18	2:38	2:12

1300 ↑	4000 ↗ 040°	GEP R-085 117.3	WHISK △	*When assigned by ATC, intercept glidepath at 4000, 5000 or 6000.					GROVZ INT HNN 18.5
VGSI and ILS glidepath not coincident				JACKO INT HNN 6.7 RADAR	SAMMZ INT I-HNN 9.7	BONNA INT I-HNN 12.7	WULAM INT I-HNN 15.6		
									
CATEGORY	A		B		C		D	E	
S-ILS 30R	1073/40 250 (300-¾)								
S-LOC 30R	1340/50 517 (500-1)		1340-1½ 517 (500-1½)		1340-1¾ 517 (500-1¾)				
CIRCLING	1360-1 519 (600-1)		1360-1½ 519 (600-1½)		1460-2 619 (700-2)		1660-3 819 (900-3)		

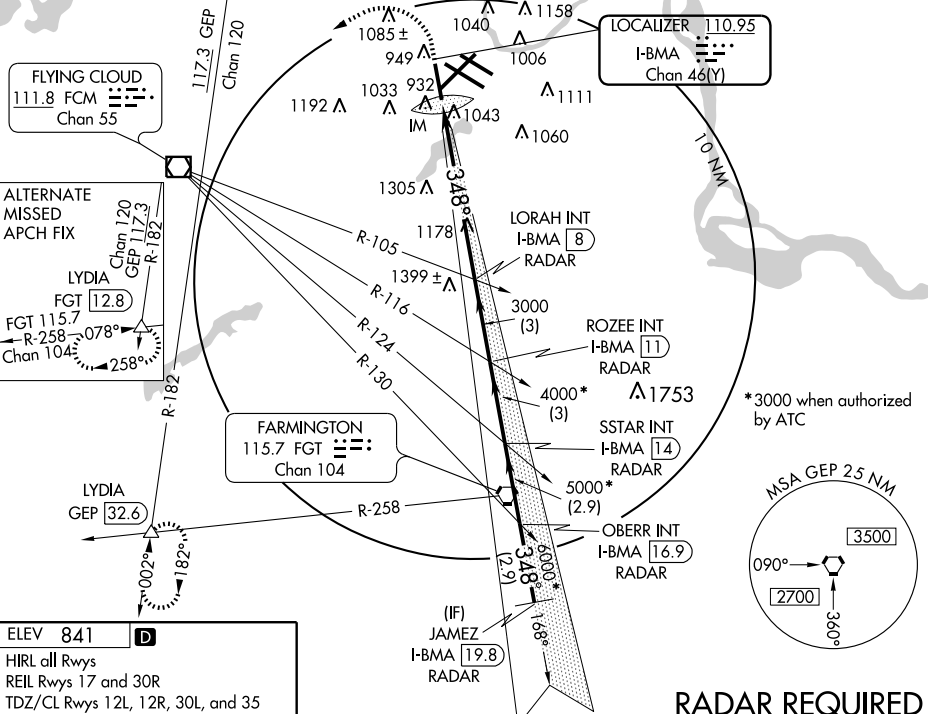
LOC/DME I-BMA	APP CRS	Rwy Idg	8000
110.95	348°	TDZE	834
Chan 46 (Y)		Apt Elev	841

For inoperative ALSF, increase S-ILS 35 Cat E visibility to RVR 4000 and S-LOC 35 Cat E visibility to 2 1/4.

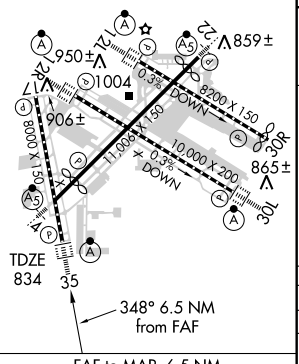


MISSED APPROACH: Climb to 1600 then climbing left turn to 5000 via heading 240° and GEP R-182 to LYDIA INT/ GEP 32.6 DME and hold.

ATIS ARR 135.35 239.275 DEP 120.8	MINNEAPOLIS APP CON 119.3 335.5	MINNEAPOLIS TOWER 123.95 273.55 (12L-30R) 126.7 273.55 (12R-30L, 4-22) 123.675 273.55 (17-35)	GND CON N 121.8 348.6 S 121.9 348.6 W 127.925	CLNC DEL 133.2
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ELEV 841
HIRL all Rwys
REIL Rwys 17 and 30R
TDZ/CL Rwys 12L, 12R, 30L, and 35



1600	5000	GEP R-182 117.3	LYDIA	VGSI and ILS glidepath not coincident	SSTAR INT I-BMA 14 RADAR	OBERR INT I-BMA 16.9 RADAR	JAMEZ I-BMA 19.8 RADAR
3000	4000	5000	6000	7000*	348°	GS 3.00° TCH 53	
0.2	1.6	4.7 NM	3 NM	3 NM	2.9 NM	2.9 NM	
CATEGORY	A	B	C	D	E		
S-ILS 35	1034/18 200 (200-1/2)						
S-LOC 35	1460/24 626 (700-1/2)	1460/60 626 (700-1/4)	1460-1 626 (700-1/2)	1460-1 626 (700-1/4)	1460-3 626 (700-1/4)		
CIRCLING	1460-1 619 (700-1)	1460-1 619 (700-1/4)	1460-2 619 (700-2)	1460-3 819 (900-3)			





NC-1: 22 OCT 2009 to 19 NOV 2009



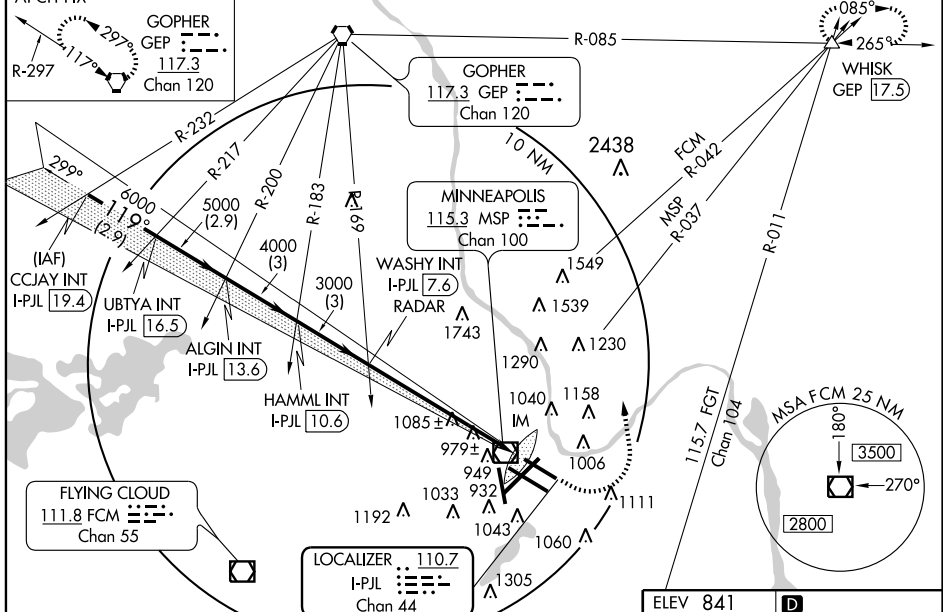
LOC/DME I-PJL <b>110.7</b> Chan <b>44</b>	APP CRS <b>119°</b>	Rwy Idg <b>7620</b> TDZE <b>839</b> Apt Elev <b>841</b>
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## ILS RWY 12L (CAT II)

MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

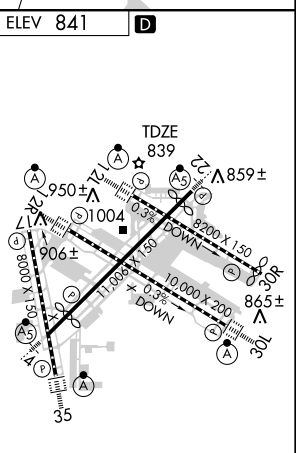
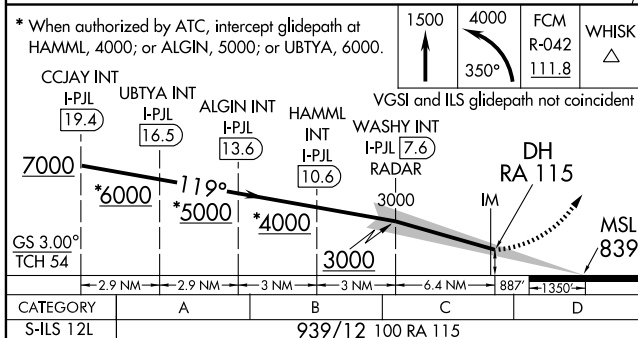
 		ALSF-2  	MISSED APPROACH: Climb to 1500, then climbing left turn to 4000 via heading 350° and FCM R-042 to WHISK Int/GEF 17.5 DME and hold.		
ATIS ARR <b>135.35 239.275</b> DEP <b>120.8</b>	MINNEAPOLIS APP CON <b>119.3 335.5</b>	MINNEAPOLIS TOWER <b>123.95 273.55</b> (12L-30R) <b>126.7 273.55</b> (12R-30L, 4-22) <b>123.675 273.55</b> (17-35)		GND CON <b>N 121.8 348.6</b> <b>S 121.9 348.6</b> <b>W 127.925</b>	CLNC DEL <b>133.2</b>

ALTERNATE MISSED  
APCH FIX



## RADAR REQUIRED

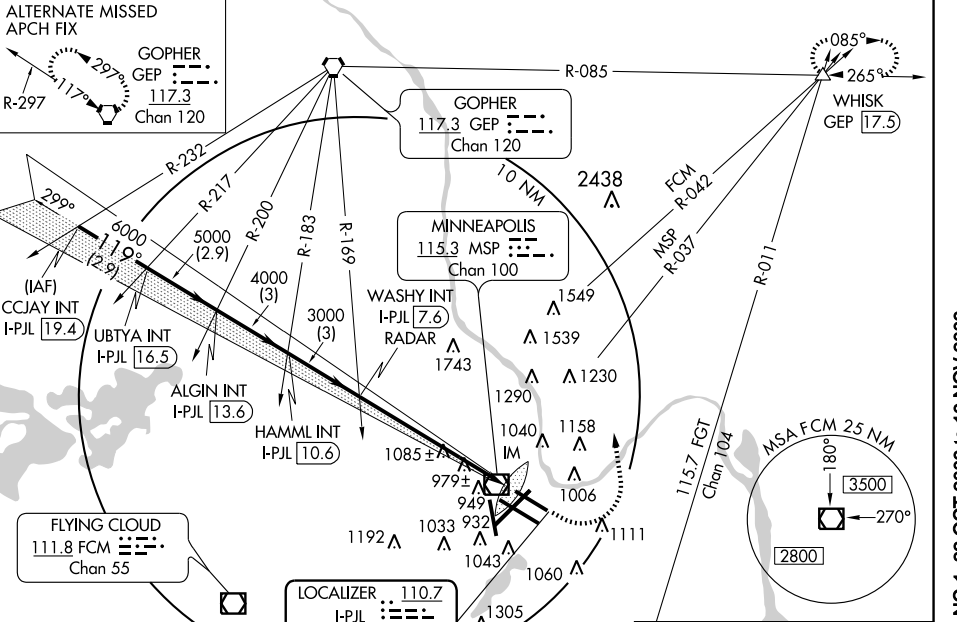
\* When authorized by ATC, intercept glidepath at HAMML, 4000; or ALGIN, 5000; or UBTYA, 6000.



CATEGORY II ILS - SPECIAL AIRCREW  
& AIRCRAFT CERTIFICATION REQUIRED

HIRL all Rwy's  
REIL Rwy's 17 and 30R  
TDZ/CL Rwy's 12L, 12R, 30L, and 35

LOC/DME I-PJL <b>110.7</b> Chan <b>44</b>	APP CRS <b>119°</b>	Rwy Idg TDZE Apt Elev <b>7620</b> <b>839</b> <b>841</b>	ALSF-2 	MISSED APPROACH: Climb to 1500, then climbing left turn to 4000 via heading 350° and FCM R-042 to WHISK Int/GEF 17.5 DME and hold.
ATIS ARR <b>135.35 239.275</b> DEP <b>120.8</b>	MINNEAPOLIS APP CON <b>119.3 335.5</b>	MINNEAPOLIS TOWER <b>123.95 273.55</b> (12L-30R) <b>126.7 273.55</b> (12R-30L, 4-22) <b>123.675 273.55</b> (17-35)	GND CON <b>N 121.8 348.6</b> <b>S 121.9 348.6</b> <b>W 127.925</b>	CLNC DEL <b>133.2</b>



**RADAR REQUIRED**

\* When authorized by ATC, intercept glidepath at HAMML, 4000; or ALGIN, 5000; or UBTYA, 6000.

CCJAY INT I-PJL 19.4	UBTYA INT I-PJL 16.5	ALGIN INT I-PJL 13.6	HAMML INT I-PJL 10.6	WASHY INT I-PJL 7.6	VGSI and ILS glidepath not coincident	IM 950	FCM R-042 111.8	WHISK 839
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7000 6000 5000 4000 3000 902 1350 MSL 839

GS 3.00° TCH 54

2.9 NM 2.9 NM 3 NM 3 NM 6.4 NM

CATEGORY	A	B	C	D
S-ILS 12L		CAT IIIa	RVR 07	
S-ILS 12L		CAT IIIb	RVR 06	
S-ILS 12L		CAT IIIc	NA	

**CATEGORY III ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED**

HIRL all Rwy's

REIL Rwy's 17 and 30R

TDZ/CL Rwy's 12L, 12R, 30L, and 35

NC-1, 22 OCT 2009 to 19 NOV 2009

LOC/DME I-HKZ  
**110.3**  
Chan **40**

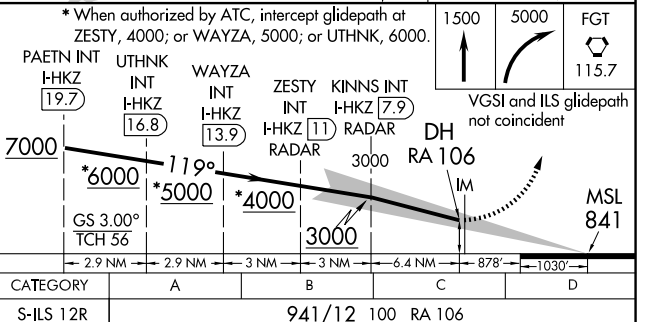
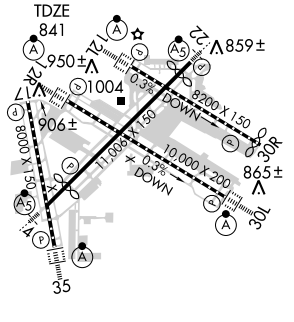
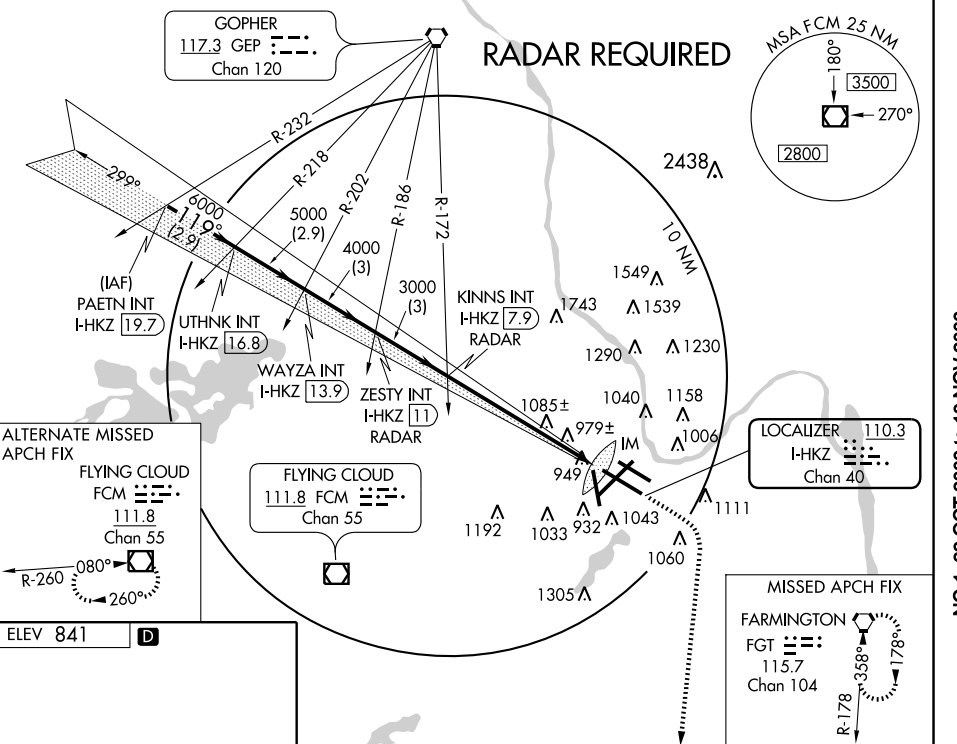
APP CRS  
**119°**

Rwy Idg **10000**  
TDZE **841**  
Apt Elev **841**

ALSF-2

MISSED APPROACH: Climb to 1500, then climbing right turn to 5000 direct FGT VORTAC and hold.

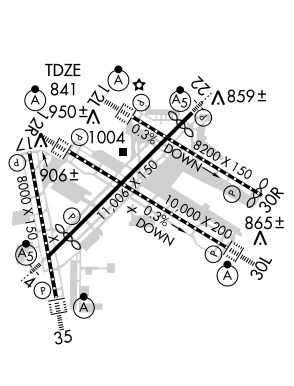
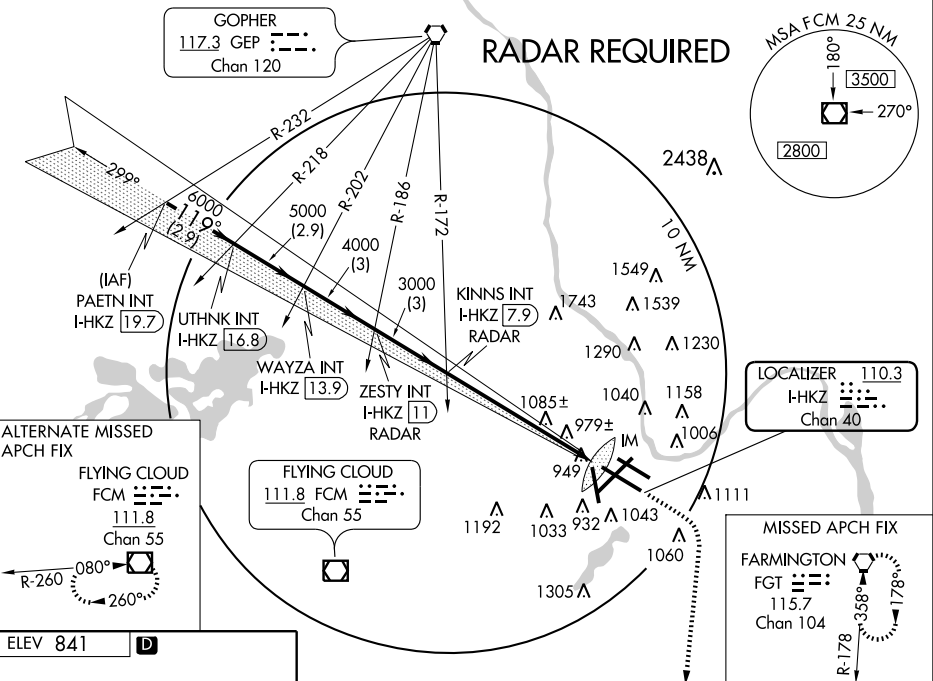
ATIS ARR <b>135.35 239.275</b> DEP <b>120.8</b>	MINNEAPOLIS APP CON <b>119.3 335.5</b>	MINNEAPOLIS TOWER <b>123.95 273.55</b> (12L-30R) <b>126.7 273.55</b> (12R-30L, 4-22) <b>123.675 273.55</b> (17-35)	GND CON <b>N 121.8 348.6</b> <b>S 121.9 348.6</b> <b>W 127.925</b>	CLNC DEL <b>133.2</b>
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LOC/DME I-HKZ	APP CRS	Rwy Idg	10000
110.3	119°	TDZE	841
Chan 40		Apt Elev	841

ILS RWY 12R (CAT III)  
MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

ATIS ARR 135.35 239.275 DEP 120.8		MINNEAPOLIS APP CON 119.3 335.5	MINNEAPOLIS TOWER 123.95 273.55 (12L-30R) 126.7 273.55 (12R-30L, 4-22) 123.675 273.55 (17-35)	GND CON N 121.8 348.6 S 121.9 348.6 W 127.925	CLNC DEL 133.2
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\* When authorized by ATC, intercept glidepath at ZESTY, 4000; or WAYZA, 5000; or UTHNK, 6000.

PAETN INT	UTHNK INT	WAYZA INT	ZESTY INT	KINNS INT	IM	MSL
I-HKZ 19.7	I-HKZ 16.8	I-HKZ 13.9	I-HKZ 11	I-HKZ 7.9	937	841
7000	6000	5000	4000	3000	3000	3000
GS 3.00°	2.9 NM	2.9 NM	3 NM	3 NM	6.4 NM	858'
TCH 56						1030'
CATEGORY	A	B	C	D		
S-ILS 12R	CAT IIIa	RVR 07				
S-ILS 12R	CAT IIIb	NA				
S-ILS 12R	CAT IIIc	NA				

CATEGORY III ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED

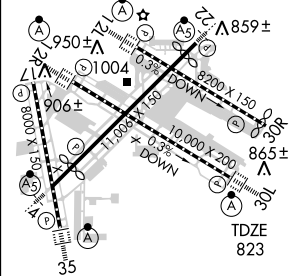
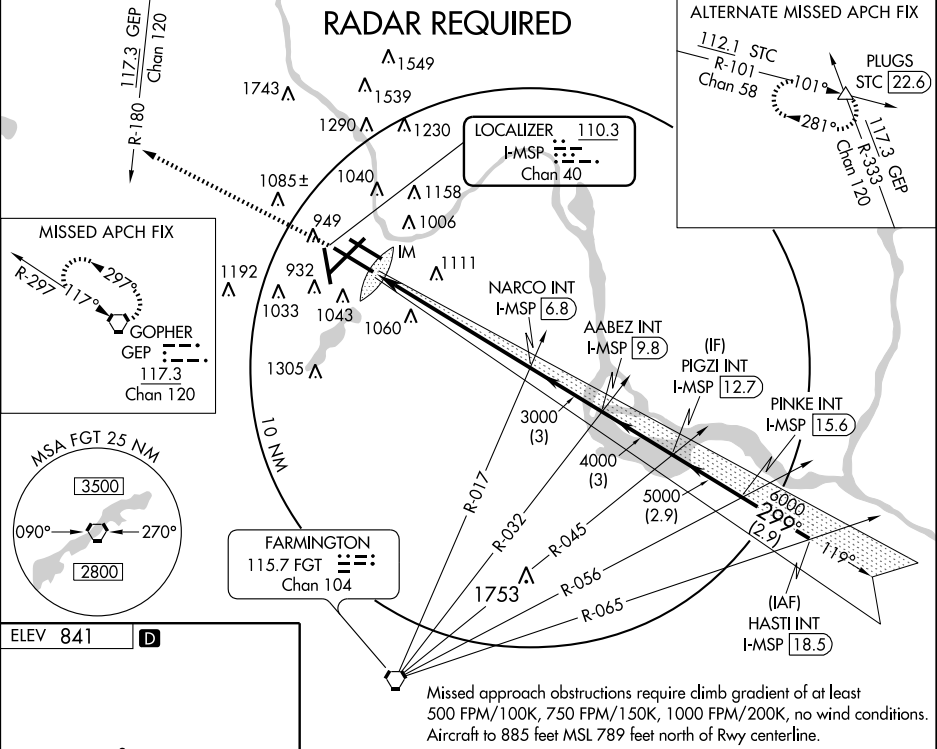
HIRL all Rwy  
REIL Rwy 17 and 30R  
TDZ/CL Rwy 12L, 12R, 30L, and 35

LOC/DME	I-MSP	APP CRS	Rwy Idg	10000
110.3		299°	TDZE	823
Chan 40			Apt Elev	841

ILS RWY 30L (CAT II)

MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

ATIS ARR <b>135.35 239.275</b> DEP <b>120.8</b>		MINNEAPOLIS APP CON <b>119.3 335.5</b>		MINNEAPOLIS TOWER <b>123.95 273.55</b> (12L-30R) <b>126.7 273.55</b> (12R-30L, 4-22) <b>123.675 273.55</b> (17-35)		GND CON <b>N 121.8 348.6</b> <b>S 121.9 348.6</b> <b>W 127.925</b>		CLNC DEL <b>133.2</b>
				ALSF-2 		MISSED APPROACH: Climb to 1300, then climb to 4000 via heading 295° and GEP VORTAC R-180 to GEP and hold.		



1300 ↑	4000 ↑	GEP R-180 295° 117.3	GEP 117.3	*When authorized by ATC, intercept glidepath at AABEZ, 4000; or PIGZI, 5000; or PINKE, 6000.					HASTI INT
VGSI and ILS glidepath not coincident		DH RA-NA IM		NARCO INT I-MSP 6.8	AABEZ INT I-MSP 9.8	PIGZI INT I-MSP 12.7	PINKE INT I-MSP 15.6	I-MSP 18.5	
823 MSL		3000		3000	4000*	5000*	6000*	299° 7000	
1103'		1072'		6.4 NM	3 NM	3 NM	2.9 NM	2.9 NM	
CATEGORY		A	B	C	D				
S-ILS 30L		933/12 110 RA-NA							

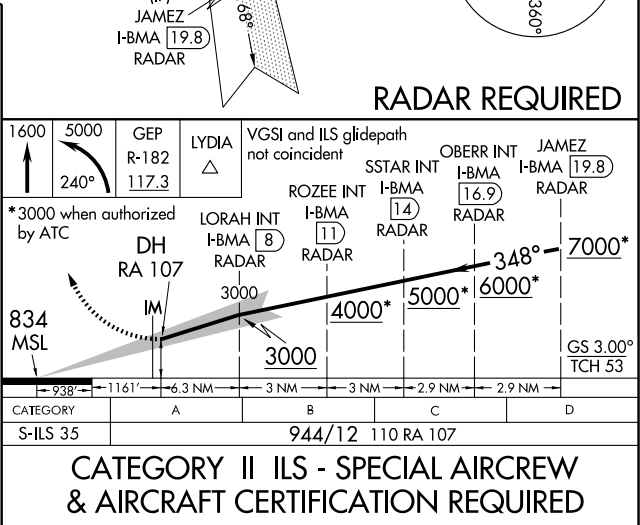
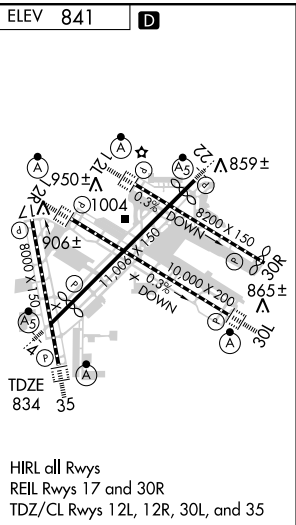
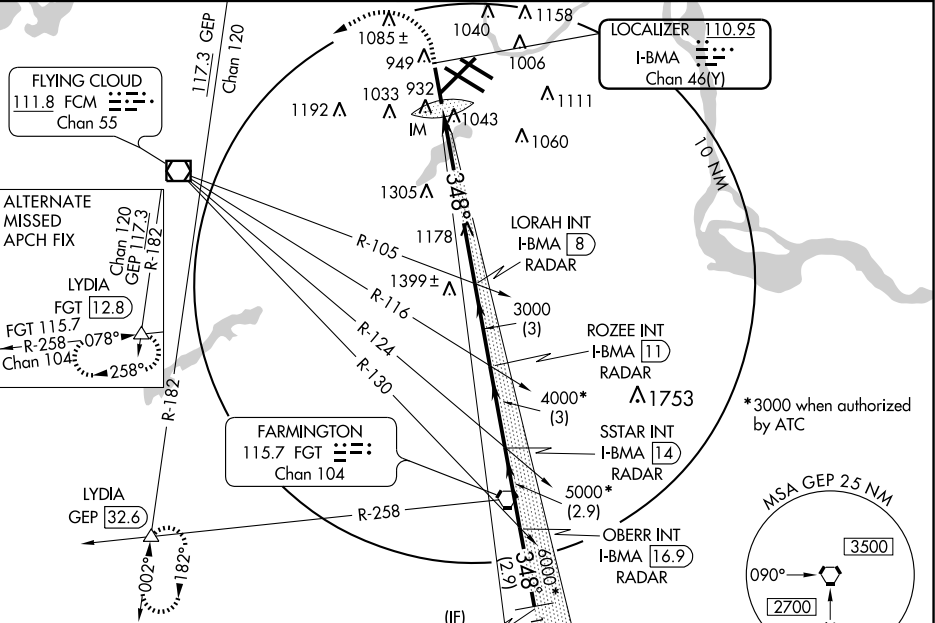
**CATEGORY II ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED**





LOC/DME I-BMA	APP CRS	Rwy Idg	8000
110.95	348°	TDZE	834
Chan 46(Y)		Apt Elev	841

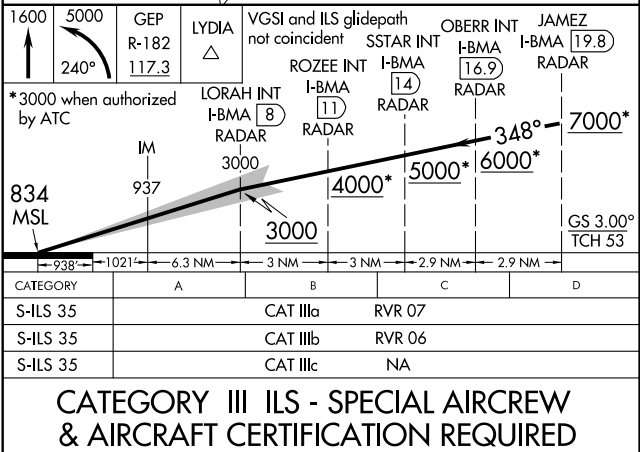
ILS RWY 35 (CAT II)

MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

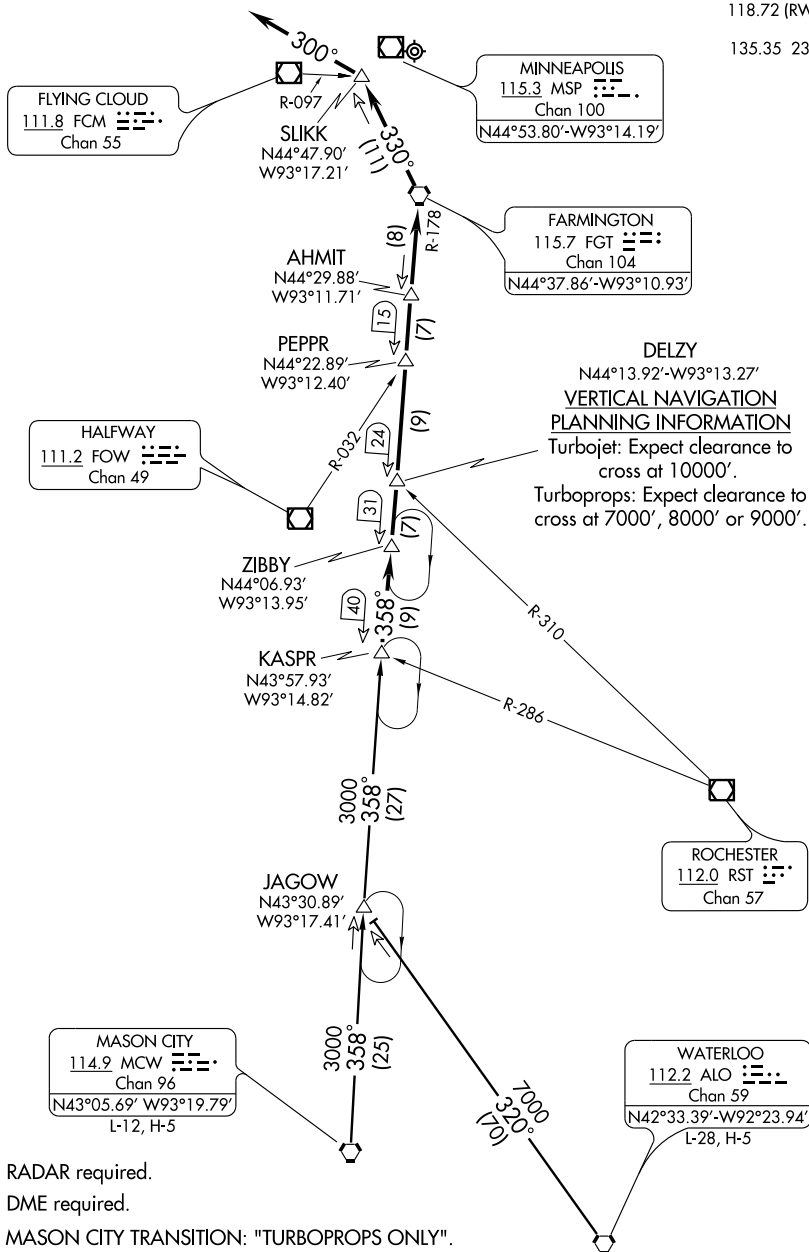
<div><div><div>V</div><div>A</div></div></div>			<div>ALSIF-2</div> <div><div><div>A</div><div></div></div></div>		MISSED APPROACH: Climb to 1600 then climbing left turn to 5000 via heading 240° and GEP R-182 to LYDIA INT/ GEP 32.6 DME and hold.		
ATIS ARR 135.35 239.275 DEP 120.8		MINNEAPOLIS APP CON 119.3 335.5		MINNEAPOLIS TOWER 123.95 273.55 (12L-30R) 126.7 273.55 (12R-30L, 4-22) 123.675 273.55 (17-35)		<div>GND CON</div> <div>N 121.8 348.6 S 121.9 348.6 W 127.925</div>	CLNC DEL 133.2



 		ALSF-2  	MISSED APPROACH: Climb to 1600 then climbing left turn to 5000 via heading 240° and GEP R-182 to LYDIA INT/ GEP 32.6 DME and hold.		
ATIS ARR <b>135.35 239.275</b> DEP <b>120.8</b>	MINNEAPOLIS APP CON <b>119.3 335.5</b>	MINNEAPOLIS TOWER <b>123.95 273.55</b> (12L-30R) <b>126.7 273.55</b> (12R-30L, 4-22) <b>123.675 273.55</b> (17-35)		GND CON <b>N 121.8 348.6</b> <b>S 121.9 348.6</b> <b>W 127.925</b>	CLNC DEL <b>133.2</b>



## KASPR THREE ARRIVAL

MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN  
ST-264 (FAA)MINNEAPOLIS, MINNESOTA  
MINNEAPOLIS APP CON126.95 335.5  
118.72 (RWY 35)  
ATIS  
135.35 239.275

(NARRATIVE ON FOLLOWING PAGE)



ARRIVAL DESCRIPTION

MASON CITY TRANSITION (MCW.KASPR3) (TURBOPROP ONLY): From over MCW VORTAC via MCW R-358 to KASPR INT. Thence....

WATERLOO TRANSITION (ALO.KASPR3): From over ALO VORTAC via ALO R-320 to JAGOW INT, then via MCW R-358 to KASPR INT. Thence....

....From over KASPR INT via FGT R-178 to FGT VORTAC.

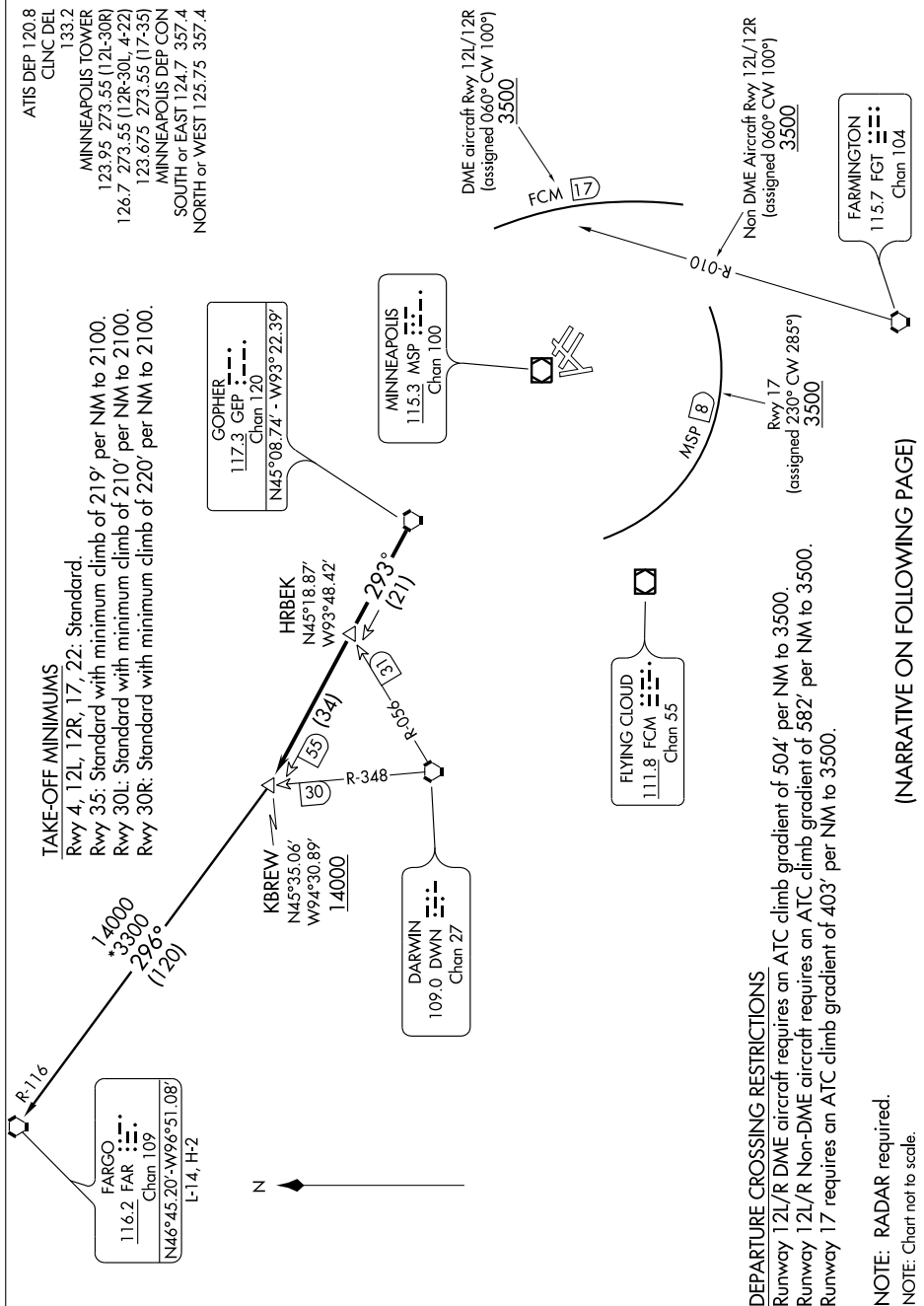
LANDING RUNWAYS 12L/R:

After FGT VORTAC via FGT R-330 to SLIKK INT thence via 300° heading for radar vectors to final approach course.

ALL OTHER RUNWAYS:

Via radar vectors to final approach course.

## KBREW TWO DEPARTURE





## DEPARTURE ROUTE DESCRIPTION

**TAKE-OFF ALL RUNWAYS:** Fly assigned heading for radar vectors to GEP VORTAC then via GEP R-293 to KBREW INT/GEP 55 DME. Turbojet aircraft maintain 7000 or lower assigned altitude, all other aircraft maintain 5000 or lower assigned altitude.

**DME EQUIPPED AIRCRAFT RWY 12L/12R DEPARTURES:** Initially assigned heading 060° clockwise to 100°, cross FCM 17 DME at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence. . . .

**TAKE-OFF RUNWAY 17:** Initially assigned heading 230° clockwise to 285° cross MSP 8 DME at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence...

**NON DME EQUIPPED AIRCRAFT RWY 12L/12R DEPARTURES:** Initially assigned heading 060° clockwise to 100°, cross FGT R-010 at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence. . . .

**TAKE-OFF RUNWAYS 4, 22, 30L/R, 35:** Initially assigned heading, thence. . . .

. . . . via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

**FARGO TRANSITION (KBREW2.FAR):** From over KBREW INT via FAR R-116 to FAR VORTAC.

## TAKE-OFF OBSTACLE NOTES

**RWY 4:** Multiple trees beginning 800' from DER, 264' left of centerline, up to 75' AGL/921' MSL.

Rod on building 2528' from DER, 1175' left of centerline, 78' AGL/922' MSL.

Fence 803' from DER, 585' left of centerline, 15' AGL/860' MSL.

Antenna on OL building 456' from DER, 319' left of centerline, 13' AGL/850' MSL.

Light poles 1932' from DER, 718' left of centerline, 45' AGL/885' MSL.

Stack 4535' from DER, 481' left of centerline, 139' AGL/949' MSL.

**RWY 22:** Tree 2906' from DER, 833' right of centerline, 94' AGL/934' MSL.

Hopper 1716' from DER, 456' left of centerline, 48' AGL/888' MSL.

**RWY 30L:** Multiple trees beginning 1113' from DER, 701' left of centerline, up to 80' AGL/919' MSL.

Tree 1230' from DER, 633' right of centerline, 30' AGL/877' MSL.

Ground 28' from DER, 490' right of centerline, 0' AGL/844' MSL.

**RWY 17:** Antenna 1272' from DER, 562' right of centerline, 57' AGL/891' MSL.

Pole 409' from DER, 530' right of centerline, 29' AGL/866' MSL.

Wind direction indicator on building 2619' from DER, 881' left of centerline, 97' AGL/918' MSL.

Building 2619' from DER, 859' left of centerline, 84' AGL/905' MSL.

Light 1176' from DER, 291' right of centerline, 11' AGL/875' MSL.

Tree 2619' from DER, on centerline, 79' AGL/900' MSL.

**RWY 30R:** Building 1056' from DER, 198' left of centerline, 13' AGL/853' MSL.

Multiple trees beginning 3010' from DER, 334' left of centerline, up to 94' AGL/940' MSL.

Light pole 1849' from DER, 698' right of centerline, 17' AGL/871' MSL.

Fence 1327' from DER, 667' right of centerline, 8' AGL/ 857' MSL.

Tree 3703' from DER, 350' right of centerline, 67' AGL/ 914' MSL.

Rod on pole 3143' from DER, 47' right of centerline, 38' AGL/898' MSL.

**RWY 35:** Tree 175' from DER, 398' right of centerline, 73' AGL/883' MSL.

Multiple trees beginning 1989' from DER, 351' left of centerline, up to 65' AGL/902' MSL.

Multiple buildings beginning 5.5 NM from DER, 1787' left of centerline, up to 811' AGL/1743' MSL.

**RWY 12R:** Multiple trees beginning 1477' from DER, 407' left of centerline, up to 86' AGL/851' MSL.

Multiple trees beginning 1426' from DER, 124' right of centerline, up to 111' AGL/847' MSL.

Light pole 1408' from DER, 746' right of centerline, 85' AGL/843' MSL.

Radar reflector 983' from DER, 32' left of centerline, 15' AGL/829' MSL.

Pipe on building 826' from DER, 576' left of centerline, 10' AGL/825' MSL.

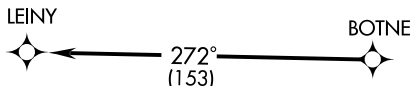
OL on LOC 766' from DER, on centerline, 7' AGL/821' MSL.

## LEINY TWO DEPARTURE (RNAV)

SL-264 (FAA)

MINNEAPOLIS, MINNESOTA

ATIS DEP 120.8  
 CLNC DEL  
 133.2  
 MINNEAPOLIS TOWER  
 123.95 273.55 (12L-30R)  
 126.7 273.55 (12R-30L, 4-22)  
 123.675 273.55 (17-35)  
 MINNEAPOLIS DEP CON  
 SOUTH or EAST 124.7 357.4  
 NORTH or WEST 125.75 357.4



NOTE: DME/DME/IRU required.  
 NOTE: RNAV 1.  
 NOTE: RADAR required.

TAKE-OFF MINIMUMS:

Rwy 4, 22, 12L, 12R, 17 : Standard.

Rwy 35: Standard with minimum climb of 219 feet per NM to 2100.

Rwy 30L: Standard with minimum climb of 210 feet per NM to 2100.

Rwy 30R: Standard with minimum climb of 220 feet per NM to 2100.

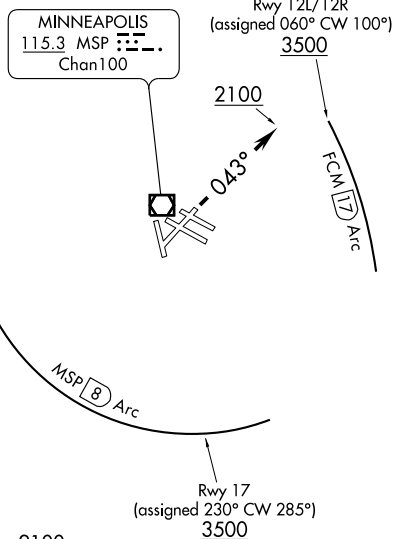
DEPARTURE CROSSING RESTRICTIONS:

Runway 12L/R requires an ATC climb gradient of 504' per NM to 3500.

Runway 17 requires an ATC climb gradient of 367' per NM to 3500.

NOTE: Chart not to scale.

(NOTES CONTINUED ON FOLLOWING PAGE)



## DEPARTURE ROUTE DESCRIPTION

TAKE-OFF RUNWAY 4: Climb heading 043° to 2100. Thence....

TAKE-OFF RUNWAYS 12L/12R: Initially assigned heading 060° clockwise to 100°, cross FCM VOR/DME 17 DME Arc at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence....

TAKE-OFF RUNWAY 17: Initially assigned heading 230° clockwise to 285°, cross MSP VOR/DME 8 DME Arc at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence....

TAKE-OFF RUNWAYS 22, 35, 30L/R: Climb on assigned heading for radar vectors. Thence...

...expect radar vectors to BOTNE, then via 272° track to LEINY. Turbojet aircraft maintain 7000 or lower assigned altitude, all other aircraft maintain 5000 or lower assigned altitude. Expect filed altitude/flight level 10 minutes after departure.

TAKE-OFF OBSTACLE NOTES

RWY 4: Multiple trees beginning 800' from DER, 264' left of centerline, up to 75' AGL/921' MSL.

Rod on building 2528' from DER, 1175' left of centerline, 78' AGL/922' MSL.

Fence 803' from DER, 585' left of centerline, 15' AGL/860' MSL.

Ant on OL building 456' from DER, 319' left of centerline, 13' AGL/850' MSL.

LT poles 1932' from DER, 718' left of centerline, 45' AGL/885' MSL.

Stack 4535' from DER, 481' left of centerline, 139' AGL/949' MSL.

RWY 22: Tree 2906' from DER, 833' right of centerline, 94' AGL/934' MSL.

Hopper 1717' from DER, 456' left of centerline, 48' AGL/888' MSL.

RWY 30L: Multiple trees beginning 1113' from DER, 701' left of centerline, up to 80' AGL/919' MSL.

Tree 1230' from DER, 633' right of centerline, 30' AGL/877' MSL.

Ground 28' from DER, 490' right of centerline, 0' AGL/844' MSL.

RWY 17: Antenna 1272' from DER, 562' right of centerline, 57' AGL/891' MSL.

Pole 409' from DER, 530' right of centerline, 29' AGL/866' MSL.

Wind direction indicator on bldg 2619' from DER, 881' left of centerline, 97' AGL/918' MSL.

Bldg 2619' from DER, 859' left of centerline, 84' AGL/905' MSL.

LT 1176' from DER, 291' right of centerline, 11' AGL/875' MSL.

Tree 2619' from DER, on centerline, 79' AGL/900' MSL.

RWY 30R: Bldg 1056' from DER, 198' left of centerline, 13' AGL/853' MSL.

Multiple trees beginning 3010' from DER, 334' left of centerline, up to 94' AGL/940' MSL.

LT pole 1849' from DER, 698' right of centerline, 17' AGL/871' MSL.

Fence 1327' from DER, 667' right of centerline, 8' AGL/857' MSL.

Tree 3703' from DER, 350' right of centerline, 67' AGL/914' MSL.

Rod on pole 3143' from DER, 47' right of centerline, 38' AGL/898' MSL.

RWY 35: Tree 175' from DER, 398' right of centerline, 73' AGL/883' MSL.

Multiple trees beginning 1989' from DER, 351' left of centerline, up to 65' AGL/902' MSL.

Multiple buildings beginning 5.45 NM from DER, 1787' left of centerline, up to 811' AGL/1743' MSL.

RWY 12R: Multiple trees beginning 1477' from DER, 407' left of centerline, up to 86' AGL/851' MSL.

Multiple trees beginning 1426' from DER, 124' right of centerline, up to 111' AGL/847' MSL.




LT pole 1408' from DER, 746' right of centerline, 85' AGL/843' MSL.

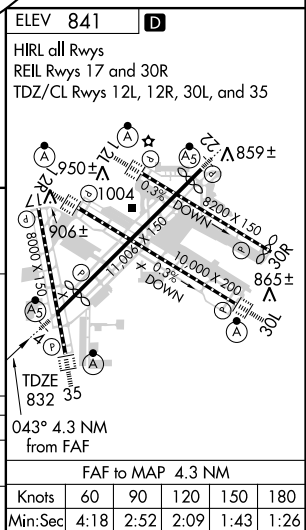
Radar reflector 983' from DER, 32' left of centerline, 15' AGL/829' MSL.

Pipe on bldg, 826' from DER, 576' left of centerline, 10' AGL/825' MSL.

OL on LOC 766' from DER, on centerline, 7' AGL/821' MSL.

MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

 			MISSED APPROACH: Climb to 1500 then climbing left turn to 4000 direct GEP VORTAC and hold.	
ATIS ARR <b>135.35 239.275</b> DEP <b>120.8</b>	MINNEAPOLIS APP CON <b>119.3 335.5</b>	MINNEAPOLIS TOWER <b>123.95 273.55</b> (12L-30R) <b>126.7 273.55</b> (12R-30L, 4-22) <b>123.675 273.55</b> (17-35)	GND CON <b>N 121.8 348.6</b> <b>S 121.9 348.6</b> <b>W 127.925</b>	CLNC DEL <b>133.2</b>



Procedure Turn NA

VGSI and descent angles not coincident.

KETAM INT

IGEPEY INT

1500

4000

GEP

117.3

\*4000

043°

2300

3.08°

TCH 55

\*2700 when authorized by ATC

6.4 NM

4.3 NM

CATEGORY	A	B	C	D	E
S-4	1260/24	428 (500-1/2)	1260/40 428 (500-1 3/4)	1260/50	428 (500-1)
CIRCLING	1360-1	519 (600-1)	1360-1 1/2 519 (600-1 1/2)	1460-2 619 (700-2)	1660-3 819 (900-3)

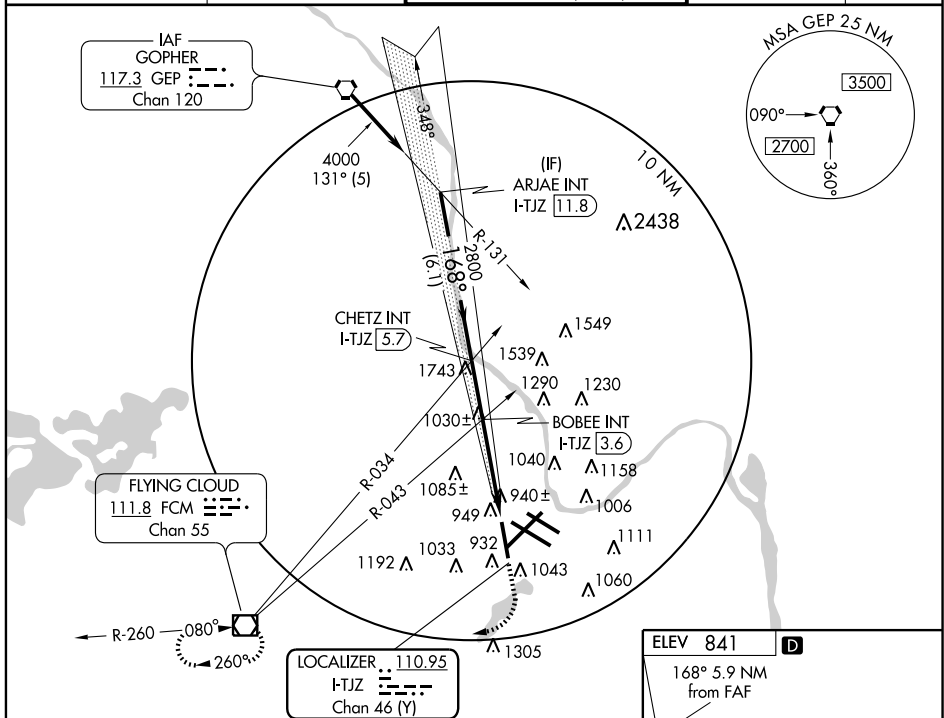
LOC/DME I-TJZ <b>110.95</b> Chan <b>46(Y)</b>	APP CRS <b>168°</b>	Rwy Idg TDZE Apt Elev	<b>8000</b> <b>840</b> <b>841</b>
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# LOC RWY 17

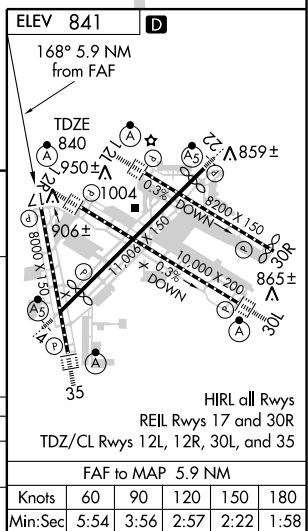
MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

<b>ATIS</b> ARR <b>135.35 239.275</b> DEP <b>120.8</b>		<b>MINNEAPOLIS APP CON</b> <b>119.3 335.5</b>	<b>MINNEAPOLIS TOWER</b> <b>123.95 273.55</b> (12L-30R) <b>126.7 273.55</b> (12R-30L, 4-22) <b>123.675 273.55</b> (17-35)	<b>GND CON</b> <b>N 121.8 348.6</b> <b>S 121.9 348.6</b> <b>W 127.925</b>	<b>CLNC DEL</b> <b>133.2</b>
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MISSED APPROACH: Climb to 1300 then climbing right turn to 5000 direct FCM VOR/DME and hold.



<div>ARJAE INT I-TJZ 11.8</div> <div>CHETZ INT I-TJZ 5.7</div> <div>BOBEE INT I-TJZ 3.6</div>				<div>1300 ↑</div>	<div>5000 ↷</div>	<div>FCM ◻ 111.8</div>	
Procedure Turn NA	4000		2800		2100		
	168°		3.05° TCH 60		I-TJZ 0.8 I-TJZ 0.2		
6.1 NM		2.1 NM		2.9 NM		0.9	
CATEGORY	A		B		C		D
S-17	1200/50		360 (400-1)		1200/60		360 (400-1½)
CIRCLING	1360-1		519 (600-1)		1360-1½ 519 (600-1½)		1460-2 619 (700-2)



## LOC RWY 22

MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

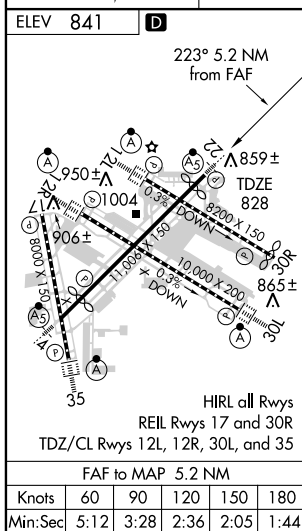
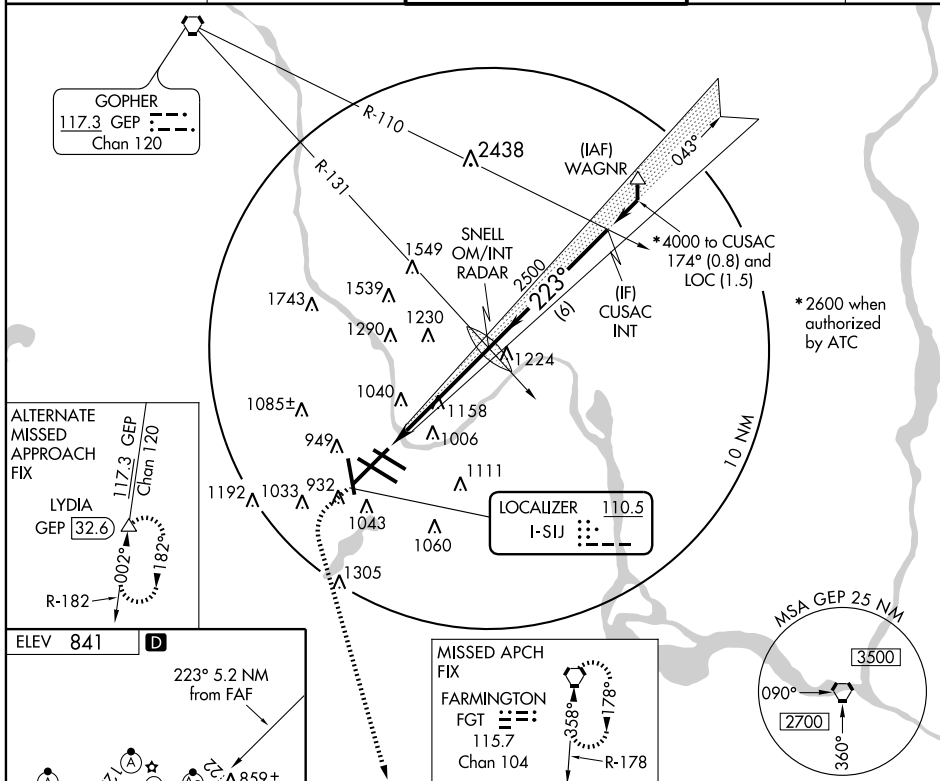
LOC I-SIJ <b>110.5</b>	APP CRS <b>223°</b>	Rwy Idg TDZE Apt Elev	<b>10018</b> <b>828</b> <b>841</b>
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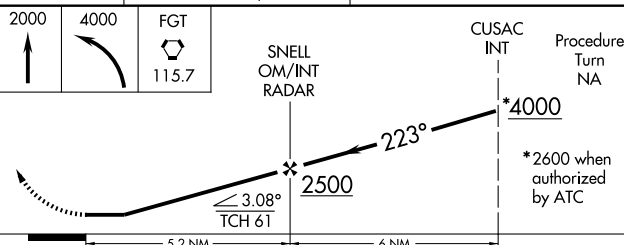
**▼** For inoperative MALSR increase S-22 Cat A and B visibility to RVR 5000 and Cat E visibility to 2 miles.



**MISSED APPROACH:** Climb to 2000 then climbing left turn to 4000 direct FGT VORTAC and hold.

ATIS ARR <b>135.35 239.275</b> DEP <b>120.8</b>	MINNEAPOLIS APP CON <b>119.3 335.5</b>	MINNEAPOLIS TOWER <b>123.95 273.55</b> (12L-30R) <b>126.7 273.55</b> (12R-30L, 4-22) <b>123.675 273.55</b> (17-35)	GND CON <b>N 121.8 348.6</b> <b>S 121.9 348.6</b> <b>W 127.925</b>	CLNC DEL <b>133.2</b>
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2000 ↑	4000 ↖	FGT 115.7 			
CATEGORY	A	B	C	D	E
S-22	1420/40 592 (600-¾)		1420/50 592 (600-1)	1420/60 592 (600-1¼)	1420-1½ 592 (600-1½)
CIRCLING	1420-1 579 (600-1)		1420-1½ 579 (600-1½)	1460-2 619 (700-2)	1660-3 819 (900-3)



TAKEOFF MINIMUMS:

Rwy 17: Standard with minimum ATC climb of 240' per mile to 5000.

All other runways: NA - ATC request.

ATIS DEP 120.8

CLNCL DEL

133.2

MINNEAPOLIS TOWER

123.95 273.55 (12L-30R)

126.7 273.55 (12R-30L, 4-22)

123.675 273.55 (17-35)

MINNEAPOLIS DEP CON

SOUTH or EAST 124.7 357.4

NORTH or WEST 125.75 357.4

FARGO  
116.2 FAR  
Chan 109  
N46°45.20'-W96°51.08'  
L-14, H-2

BRAINERD  
116.9 BRD  
Chan 116  
N46°20.90'-W94°01.56'  
L-14, H-2

DULUTH  
112.6 DLH  
Chan 73  
N46°48.13'-W92°12.17'  
L-14, H-2

GREEN BAY  
115.5 GRB  
Chan 102  
N44°33.31'-W88°11.69'  
L-31, H-2

ABERDEEN  
113.0 ABR  
Chan 77  
N45°25.04'-W98°22.12'  
L-14, H-2

MINNEAPOLIS  
115.3 MSP  
Chan 100  
N44°53.79'-W93°14.19'  
L-12-14, H-2

FARMINGTON  
115.7 FGT  
Chan 104  
N44°37.86'-W93°10.92'  
L-12-14, H-2

RAPID CITY  
112.3 RAP  
Chan 70  
N43°58.56'-W103°00.74'  
L-12, H-2

FLYING CLOUD  
111.8 FCM  
Chan 55  
N44°49.54'-W93°27.41'  
L-12-14, H-2

NODINE  
117.9 ODI  
Chan 126  
N43°54.74'-W91°28.06'  
L-28, H-2

SIoux FALLS  
115.0 FSD  
Chan 97  
N43°38.97'-W96°46.87'  
L-12, H-5

FORT DODGE  
113.5 FOD  
Chan 82  
N42°36.67'-W94°17.69'  
L-12, H-5

ROCHESTER  
112.0 RST  
Chan 57  
N43°46.98'-W92°35.80'  
L-12-28, H-2

DELLS  
117.0 DLL  
Chan 117  
N43°33.05'-W89°45.82'  
L-28, H-5

O'NEILL  
113.9 ONL  
Chan 86  
N42°28.23'-W98°41.22'  
L-12, H-5

OMAHA  
116.3 OVR  
Chan 110  
N41°10.04'-W95°44.20'  
L-10-12, H-5

DES MOINES  
117.5 DSM  
Chan 122  
N41°26.22'-W93°38.92'  
L-12-27, H-5

ST JOSEPH  
115.5 STJ  
Chan 102  
N39°57.63'-W94°55.51'  
L-10, H-5

KANSAS CITY  
113.25 MCI  
Chan 79 (Y)  
N39°17.12'-W94°44.22'  
L-10, H-5

TAKE-OFF OBSTACLE NOTES

RWY 17: Building 199' from DER, 496' left of centerline, 67' AGL/898' MSL.

Multiple poles beginning 188' from DER, 240' right of centerline, up to 160' AGL/866' MSL.

Wind direction indicator on building 2619' from DER, 881' left of centerline, 97' AGL/918' MSL.

Building 2619' from DER, 859' left of centerline, 84' AGL/905' MSL.

Building 2336' from DER, 385' right of centerline, 154' AGL/983' MSL.

NOTE: RADAR required.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

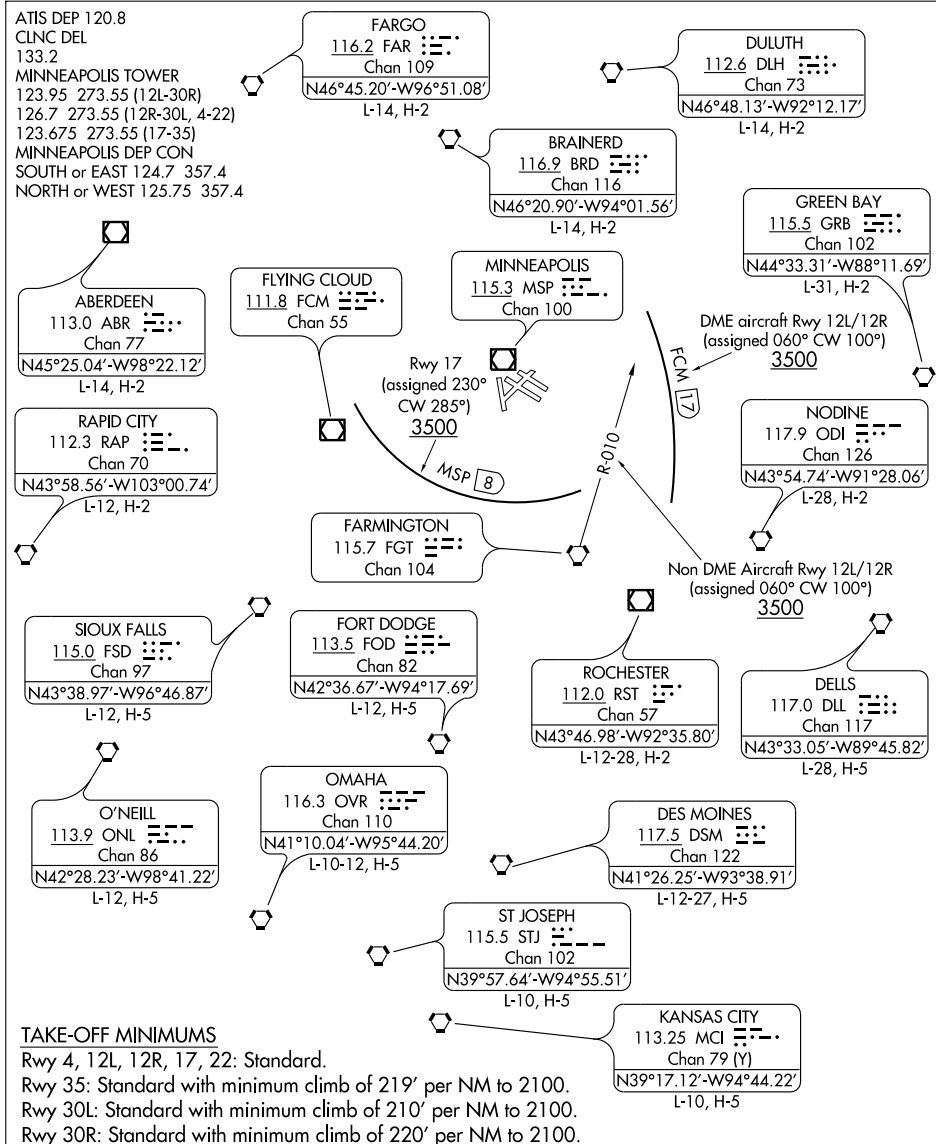
TAKE-OFF RUNWAY 17: Climb via 170° to HUSHH/MSP VOR/DME 3.5 DME then right turn via 245° and continue climb (turbojet aircraft maintain 7000 or lower as assigned, all other aircraft maintain 5000 or lower as assigned). Then via vectors to assigned route/fix, expect clearance to assigned altitude/flight level 10 minutes after departure.

NC-1, 22 OCT 2009 to 19 NOV 2009

## MINNEAPOLIS THREE DEPARTURE

SL-264 (FAA)

MINNEAPOLIS, MINNESOTA



(NARRATIVE ON FOLLOWING PAGE)

NOTE: Chart not to scale.

## MINNEAPOLIS THREE DEPARTURE

SL-264 (FAA)

MINNEAPOLIS, MINNESOTA



## DEPARTURE ROUTE DESCRIPTION

ALL AIRCRAFT: Expect radar vectors to join filed/assigned route. Turbojet aircraft maintain 7000 or lower assigned altitude. All other aircraft maintain 5000 or lower assigned altitude. Expect clearance to assigned altitude/flight level 10 (ten) minutes after departure.

DME EQUIPPED AIRCRAFT RWY 12L/12R DEPARTURES: Initially assigned heading 060° clockwise to 100°, cross FCM 17 DME at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure.

NON-DME EQUIPPED AIRCRAFT RWY 12L/12R DEPARTURES: Initially assigned heading 060° clockwise to 100°, cross FGT R-010 at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure.

TAKE-OFF RUNWAY 17: Initially assigned heading 230° clockwise to 285° cross MSP 8 DME at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure.

## TAKE-OFF OBSTACLE NOTES

RWY 4: Multiple trees beginning 800' from DER, 264' left of centerline, up to 75' AGL/921' MSL.

Rod on building 2528' from DER, 1175' left of centerline, 78' AGL/922' MSL.

Fence 803' from DER, 585' left of centerline, 15' AGL/860' MSL.

Antenna on OL building 456' from DER, 319' left of centerline, 13' AGL/850' MSL.

Light poles 1932' from DER, 718' left of centerline, 45' AGL/885' MSL.

Stack 4535' from DER, 481' left of centerline, 139' AGL/949' MSL.

RWY 22: Tree 2906' from DER, 833' right of centerline, 94' AGL/934' MSL.

Hopper 1716' from DER, 456' left of centerline, 48' AGL/888' MSL.

Tree 1230' from DER, 633' right of centerline, 30' AGL/877' MSL.

Ground 28' from DER 490' right of centerline, 0' AGL/844' MSL.

RWY 17: Antenna 1272' from DER, 562' right of centerline, 57' AGL/891' MSL.

Pole 409' from DER, 530' right of centerline, 29' AGL/866' MSL.

Wind direction indicator on building 2619' from DER, 881' left of centerline, 97' AGL/918' MSL.

Building 2619' from DER, 859' left of centerline, 84' AGL/905' MSL.

Light 1176' from DER, 291' right of centerline, 11' AGL/875' MSL.

Tree 2619' from DER, on centerline, 79' AGL/900' MSL.

RWY 30L: Multiple trees beginning 1113' from DER, 701' left of centerline, up to 80' AGL/919' MSL.

Tree 1230' from DER, 633' right of centerline, 30' AGL/877' MSL.

Ground 28' from DER, 490' right of centerline 0' AGL/844' MSL.

RWY 30R: Building 1056' from DER, 198' left of centerline, 13' AGL/853' MSL.

Multiple trees beginning 3010' from DER, 334' left of centerline, up to 94' AGL/940' MSL.

Light pole 1849' from DER, 698' right of centerline, 17' AGL/871' MSL.

Fence 1327' from DER, 667' right of centerline, 8' AGL/857' MSL.

Tree 3703' from DER, 350' right of centerline, 67' AGL/914' MSL.

Rod on pole 3143' from DER, 47' right of centerline, 38' AGL/898' MSL.

RWY 35: Tree 175' from DER, 398' right of centerline, 73' AGL/883' MSL.

Multiple trees beginning 1989' from DER, 351' left of centerline, up to 65' AGL/902' MSL.

Multiple buildings beginning 5.5 NM from DER, 1787' left of centerline, up to 811' AGL/1743' MSL.

RWY 12R: Multiple trees beginning 1477' from DER, 407' left of centerline, up to 86' AGL/851' MSL.

Multiple trees beginning 1426' from DER, 124' right of centerline, up to 111' AGL/847' MSL.

Light pole 1408' from DER, 746' right of centerline, 85' AGL/843' MSL.

Radar reflector 983' from DER, 32' left of centerline, 15' AGL/829' MSL.

Pipe on building, 826' from DER, 576' left of centerline, 10' AGL/825' MSL.

OL on LOC 766' from DER, on centerline, 7' AGL/821' MSL.





## DEPARTURE ROUTE DESCRIPTION

**TAKE-OFF ALL RUNWAYS:** Fly assigned heading for radar vectors to MSP R-208 to ORSKY INT/MSP 85 DME. Turbojet aircraft maintain 7000 or lower assigned altitude. All other aircraft maintain 5000 or lower assigned altitude.

**TAKE-OFF RUNWAY 17:** Initially assigned heading 230° clockwise to 285° cross MSP 8 DME at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence. . . .

**DME EQUIPPED AIRCRAFT RWY 12L/R DEPARTURES:** Initially assigned heading 060° clockwise to 100°, cross FCM 17 DME at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence. . . .

**NON DME EQUIPPED AIRCRAFT RWY 12L/R DEPARTURES:** Initially assigned heading 060° clockwise to 100°, cross FGT R-010 at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence. . . .

**TAKE-OFF RUNWAYS 4, 22, 30L/R, 35:** Initially assigned heading, Thence. . . .

. . . . via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

**FORT DODGE TRANSITION (ORSKY3.FOD):** From over ORSKY INT via FOD R-356 to FOD VORTAC.

**OMAHA TRANSITION (ORSKY3.OVR):** From over ORSKY INT via MSP R-208 to ONTIJ INT then via OVR R-015 to OVR VORTAC.

### TAKE-OFF OBSTACLE NOTES

**RWY 4:** Multiple trees beginning 800' from DER, 264' left of centerline, up to 75' AGL/921' MSL.

Rod on building 2528' from DER, 1175' left of centerline, 78' AGL/922' MSL.

Fence 803' from DER, 585' left of centerline, 15' AGL/860' MSL.

Antenna on OL building 456' from DER, 319' left of centerline, 13' AGL/850' MSL.

Light poles 1932' from DER, 718' left of centerline, 45' AGL/885' MSL.

Stack 4535' from DER, 481' left of centerline, 139' AGL/949' MSL.

**RWY 22:** Tree 2906' from DER, 833' right of centerline, 94' AGL/934' MSL.

Hopper 1716' from DER, 456' left of centerline, 48' AGL/888' MSL.

**RWY 17:** Antenna 1272' from DER, 562' right of centerline, 57' AGL/891' MSL.

Pole 409' from DER, 530' right of centerline, 29' AGL/866' MSL.

Wind direction indicator on building 2619' from DER, 881' left of centerline, 97' AGL/918' MSL.

Building 2619' from DER, 859' left of centerline, 84' AGL/905' MSL.

Light 1176' from DER, 291' right of centerline, 11' AGL/875' MSL.

Tree 2619' from DER, on centerline, 79' AGL/900' MSL.

**RWY 30L:** Multiple trees beginning 1113' from DER, 701' left of centerline, up to 80' AGL/919' MSL.

Tree 1230' from DER, 633' right of centerline, 30' AGL/877' MSL.

Ground 28' from DER, 490' right of centerline 0' AGL/844' MSL.

**RWY 30R:** Building 1056' from DER, 198' left of centerline, 13' AGL/853' MSL.

Multiple trees beginning 3010' from DER, 334' left of centerline, up to 94' AGL/940' MSL.

Light pole 1849' from DER, 698' right of centerline, 17' AGL/871' MSL.

Fence 1327' from DER, 667' right of centerline, 8' AGL/857' MSL.

Tree 3703' from DER, 350' right of centerline, 67' AGL/914' MSL.

Rod on pole 3143' from DER, 47' right of centerline, 38' AGL/898' MSL.

**RWY 35:** Tree 175' from DER, 398' right of centerline, 73' AGL/883' MSL.

Multiple trees beginning 1989' from DER, 351' left of centerline, up to 65' AGL/902' MSL.

Multiple buildings beginning 5.5 NM from DER, 1787' left of centerline, up to 811' AGL/1743' MSL.

**RWY 12R:** Multiple trees beginning 1477' from DER, 407' left of centerline, up to 86' AGL/851' MSL.

Multiple trees beginning 1426' from DER, 124' right of centerline, up to 111' AGL/847' MSL.

Light pole 1408' from DER, 746' right of centerline, 85' AGL/843' MSL.

Radar reflector 983' from DER, 32' left of centerline, 15' AGL/829' MSL.

Pipe on building, 826' from DER, 576' left of centerline, 10' AGL/825' MSL.

OL on LOC 766' from DER, on centerline, 7' AGL/821' MSL.

APP CRS  
**043°**

Rwy Idg  
TDZE  
Apt Elev

**9456**  
**832**  
**841**

For inoperative MALS, increase LNAV/VNAV and LNAV Cat. E visibility to 1¾.  
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 47°C (116°F).  
DME/DME RNP- 0.3 NA.

MALS

MISSED APPROACH: Climb to 4000 via 043° course to EPEWU WP then via 330° course to GEP VORTAC and hold.

ATIS ARR <b>135.35 239.275</b> DEP <b>120.8</b>	MINNEAPOLIS APP CON <b>119.3 335.5</b>	MINNEAPOLIS TOWER <b>123.95 273.55</b> (12L-30R) <b>126.7 273.55</b> (12R-30L, 4-22) <b>123.675 273.55</b> (17-35)	GND CON <b>N 121.8 348.6</b> <b>S 121.9 348.6</b> <b>W 127.925</b>	CLNC DEL <b>133.2</b>
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MISSED APCH FIX

MSA RW04 2.5 NM

\* 2600 when authorized by ATC.

Δ1753

\* 2600 when authorized by ATC.

EPEWU

330° course

GEP

GS 3.00° TCH 75

Procedure Turn NA

CATEGORY	A	B	C	D	E
GLS PA DA	NA				
LNAV/VNAV DA	1296/50 464 (500-1)				
LNAV MDA	1300/24 468 (500-½)	1300/40 468 (500-¾)	1300/50 468 (500-1)	1300/60 468 (500-1¼)	
CIRCLING	1360-1 519 (600-1)		1460-2 619 (700-2)		1660-3 819 (900-3)

ELEV 841

**D**

HRL all Rwys

REIL Rwys 17 and 30R

TDZ/CL Rwys 12L, 12R, 30L, and 35

NC-1, 22 OCT 2009 to 19 NOV 2009

WAAS  
CH 45525  
W12B

APP CRS  
119°

Rwy Idg  
TDZE  
Apt Elev

7620  
839  
841

DME/DME RNP-0.3 NA.  
Baro-VNAV NA below -16°C (4°F).  
For inoperative ALSF, increase LPV all Cats visibility to RVR 5000,  
increase LNAV/VNAV Cat E visibility to 1½, increase LNAV Cat E  
visibility to 2¼.

ALSF-2

MISSED APPROACH: Climb to 4000 direct  
JACKO and left turn via 011° track to WHISK  
and hold.

ATIS  
ARR 135.35 239.275  
DEP 120.8

MINNEAPOLIS APP CON  
119.3 335.5

MINNEAPOLIS TOWER  
123.95 273.55 (12L-30R)  
126.7 273.55 (12R-30L, 4-22)  
123.675 273.55 (17-35)

GND CON  
N 121.8 348.6  
S 121.9 348.6  
W 127.925

CLNC DEL  
133.2

ELEV 841

HIRL all Rwys  
REIL Rwys 17 and 30R  
TDZ/CL Rwys 12L, 12R, 30L, and 35

*3000 when authorized by ATC.					
UBTYA					
VGSI and RNAV glidepath not coincident.					
*4000					
Procedure Turn NA					
GS 3.00° TCH 54					
WASHY					
4000 JACKO WHISK					
# 1.7 NM to RWY 12L					
# LNAV only					
8.9 NM 4.8 NM 1.7 NM					
CATEGORY	A	B	C	D	E
LPV DA	1135/24 296 (300-½)				
LNAV/VNAV DA	1224/40 385 (400-¾)				
LNAV MDA	1460/24	621 (700-½)	1460/60 621 (700-1¼)	1460-1½ 621 (700-1½)	1460-1¾ 621 (700-1¾)
CIRCLING	1460-1¼	619 (700-1¼)	1460-1¾ 619 (700-1¾)	1460-2 619 (700-2)	1660-3 819 (900-3)

NC-1, 22 OCT 2009 to 19 NOV 2009

RNAV (GPS) RWY 12R

MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

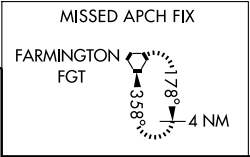
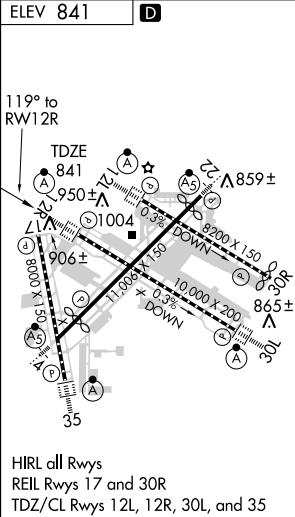
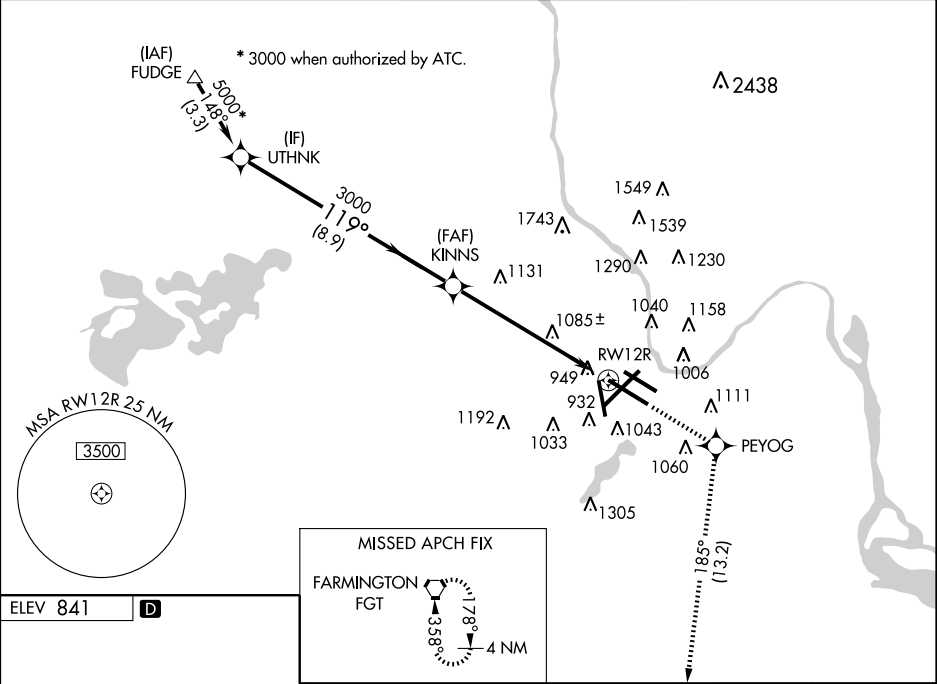
WAAS CH <b>50125</b> <b>W12A</b>	APP CRS <b>119°</b>	Rwy Idg <b>10000</b> TDZE <b>841</b> Apt Elev <b>841</b>
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**⚠** DME/DME RNP- 0.3 NA.  
**⚠** Baro-VNAV NA below -16°C (4°F).  
For inoperative ALSF, increase LPV all Cats visibility to RVR 5000,  
increase LNAV/VNAV Cat E visibility to 1½, increase LNAV Cat E  
visibility to 2 ¼.



**MISSED APPROACH:** Climb to 5000 direct  
PEYOG and via 185° track to FGT VORTAC  
and hold.

ATIS ARR <b>135.35 239.275</b> DEP <b>120.8</b>	MINNEAPOLIS APP CON <b>119.3 335.5</b>	MINNEAPOLIS TOWER <b>123.95 273.55</b> (12L-30R) <b>126.7 273.55</b> (12R-30L, 4-22) <b>123.675 273.55</b> (17-35)	GND CON <b>N 121.8 348.6</b> <b>S 121.9 348.6</b> <b>W 127.925</b>	CLNC DEL <b>133.2</b>
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* 3000 when authorized by ATC.				
UTHNK	VGSi and RNAV glidepath not coincident			
<b>*5000</b>	119°	KINNS	5000	PEYOG
Procedure Turn NA	185° track			
GS 3.00° TCH 56	3000	#LNAV only	1.7 NM to RWY12R	FGT
8.9 NM      4.8 NM      1.7 NM				
CATEGORY	A	B	C	D
LPV DA	1119/24 278 (300-½)			
LNAV/VNAV DA	1294/50 453 (500-1)			
LNAV MDA	1460/24 619 (700-½)	1460/60 619 (700-1¼)	1460-1½ 619 (700-1½)	1460-1¾ 619 (700-1¾)
CIRCLING	1460-1½ 619 (700-1½)	1460-1¾ 619 (700-1¾)	1460-2 619 (700-2)	1660-3 819 (900-3)



RNAV (GPS) RWY 22

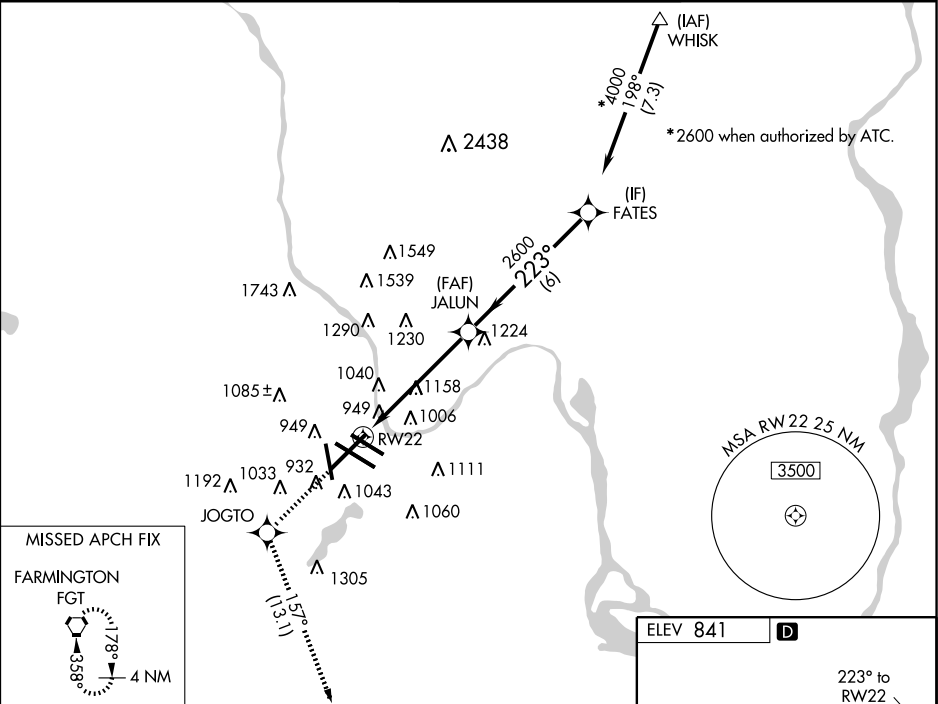
MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

WAAS CH <b>60927</b> <b>W22A</b>	APP CRS <b>223°</b>	Rwy Idg <b>10018</b> TDZE <b>828</b> Apt Elev <b>841</b>
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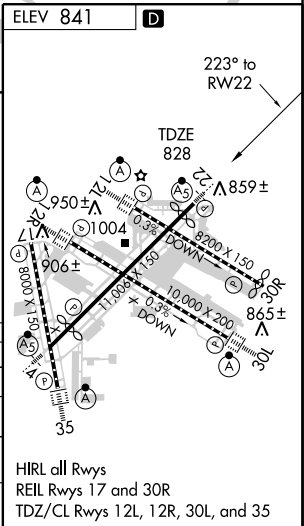
**⚠** DME/DME RNP- 0.3 NA.  
Baro-VNAV NA below -16°C (4°F).  
For inoperative MALSR, increase LPV all CATS visibility to RVR 6000,  
increase LNAV CAT A and B visibility to RVR 5000.

MALSR  
**AS**  
MISSED APPROACH: Climb to 4000 direct JOGTO and via 157° track to FGT VORTAC and hold.

ATIS ARR <b>135.35 239.275</b> DEP <b>120.8</b>	MINNEAPOLIS APP CON <b>119.3 335.5</b>	MINNEAPOLIS TOWER <b>123.95 273.55</b> (12L-30R) <b>126.7 273.55</b> (12R-30L, 4-22) <b>123.675 273.55</b> (17-35)	GND CON <b>N 121.8 348.6</b> <b>S 121.9 348.6</b> <b>W 127.925</b>	CLNC DEL <b>133.2</b>
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4000	JOGTO	157° track	FGT	*2600 when authorized by ATC. VGS1 and RNAV glidepath not coincident.	FATES
# LNAV only	#1.7 NM to RW22			JALUN	4000*
					2600
	1.7 NM	3.6 NM	6 NM		
CATEGORY	A	B	C	D	E
LPV DA	1190/40 362 (400-¾)				
LNAV/VNAV DA	1227/40 399 (400-¾)				1227/50 399 (400-1)
LNAV MDA	1420/40 592 (600-¾)	1420/50 592 (600-1)	1420/60 592 (600-1½)	1420-1½ 592 (600-1½)	
CIRCLING	1420-1¼ 579 (600-1¼)	1420-1½ 579 (600-1½)	1460-2 619 (700-2)	1660-3 819 (900-3)	



WAAS CH <b>56225</b> <b>W30A</b>	APP CRS <b>299°</b>	Rwy Idg <b>10000</b> TDZE <b>823</b> Apt Elev <b>841</b>
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## RNAV (GPS) RWY 30L

MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

**T** DME/DME RNP-0.3 NA. Baro-VNAV NA below -16°C (4°F).  
**A** For inoperative ALSF, increase LPV all Cats visibility to RVR 4000, increase LNAV/VNAV Cat E visibility to 1½. Increase LNAV Cat E visibility to 2 ¼.

ALSF-2



**MISSED APPROACH:** Climb to 4000 direct WIDEL and via 232° track to FCM VOR/DME and hold.

ATIS  
ARR **135.35 239.275**  
DEP **120.8**

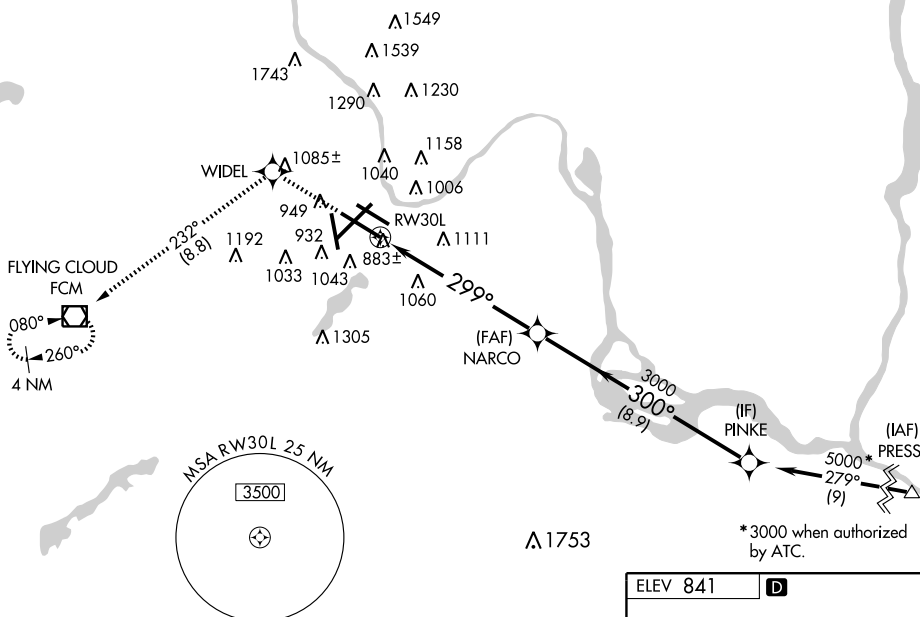
MINNEAPOLIS APP CON  
119.3 335.5



MINNEAPOLIS TOWER  
**123.95 273.55** (12L-30R)  
**126.7 273.55** (12R-30L, 4-22)  
**123.675 273.55** (17-35)

GND CON	
N	121.8 348.6
S	121.9 348.6
W	127.925

CLNC DEL  
133.2

Procedure NA for arrivals at PRESS via V26 eastbound, V2-97 southeastbound.



4000 ↑	WIDEL 	232° track	FCM 	* 3000 when authorized by ATC. VGSi and RNAV glidepath not coincident	PINKE	Procedure Turn NA
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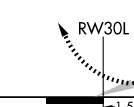
```
# LNAV only
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#1.5 NM to

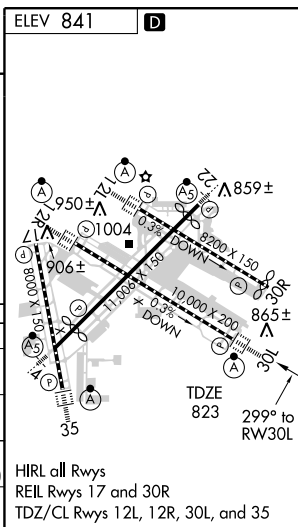
NARCO

KE

5000\*



CATEGORY	A	B	C	D	E
LPV DA	1073/24 250 (300-½)				
LNAV/VNAV DA	1295/60 472 (500-1¼)				
LNAV MDA	1360/24 537 (600-½)		1360/50 537 (600-1)	1360/60 537 (600-1¼)	1360-1½ 537 (600-1½)
CIRCLING	1360-1¾ 519 (600-1¾)			1460-2 619 (700-2)	1660-3 819 (900-3)



WAAS CH <b>60925</b> <b>W30A</b>	APP CRS <b>299°</b>	Rwy Idg TDZE Apt Elev	<b>8000</b> <b>823</b> <b>841</b>
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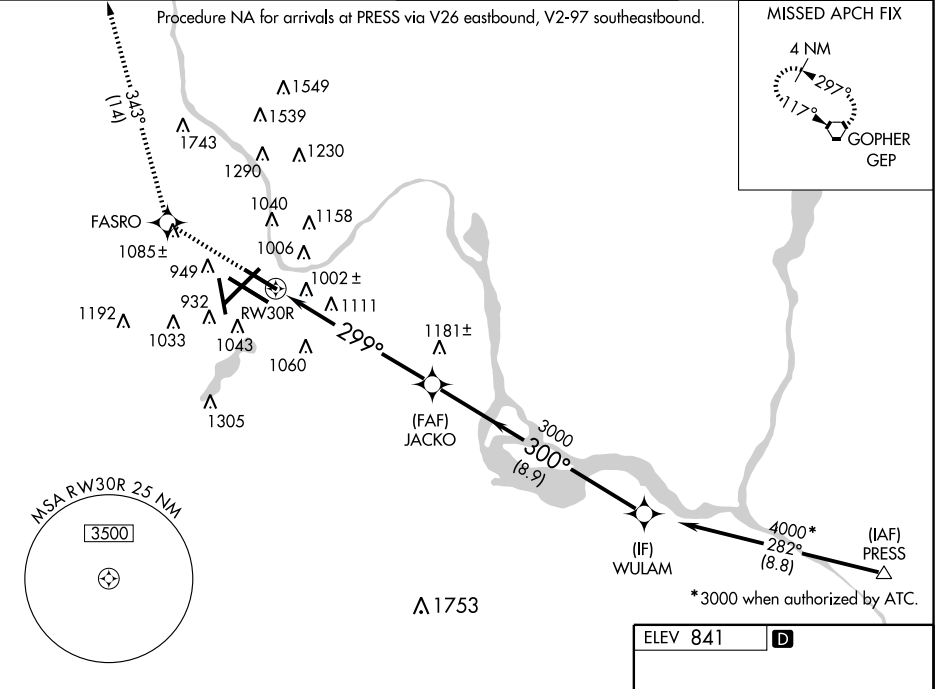
RNAV (GPS) RWY 30R

MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

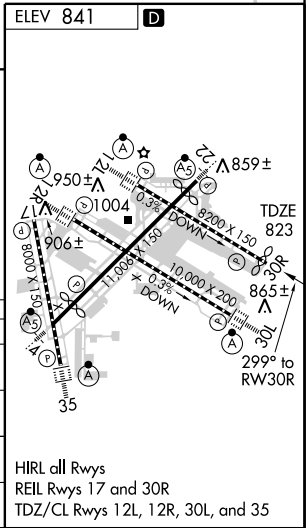
DME/DME RNP- 0.3 NA.  
Baro-VNAV NA below -16°C (4°F).

MISSED APPROACH: Climb to 5000 direct FASRO and via 343° track to GEP VORTAC and hold.

ATIS ARR <b>135.35 239.275</b> DEP <b>120.8</b>	MINNEAPOLIS APP CON <b>119.3 335.5</b>	MINNEAPOLIS TOWER <b>123.95 273.55</b> (12L-30R) <b>126.7 273.55</b> (12R-30L, 4-22) <b>123.675 273.55</b> (17-35)	GND CON <b>N 121.8 348.6</b> <b>S 121.9 348.6</b> <b>W 127.925</b>	CLNC DEL <b>133.2</b>
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5000	FASRO	343° track	GEP	* 3000 when authorized by ATC. VGSI and RNAV glidepath not coincident	WULAM
# LNAV only		# 1.6 NM to RW30R		JACKO	4000*
	RW30R				300°
		1.6 NM	5 NM		3000
CATEGORY	A	B	C	D	E
LPV DA	1073/40 250 (300-¾)				
LNAV/VNAV DA	1294-1¾ 471 (500-1¾)				
LNAV MDA	1400/50 577 (600-1)	1400-1½ 577 (600-1½)	1400-1¾ 577 (600-1¾)	1400-2 577 (600-2)	
CIRCLING	1400-1 559 (600-1)	1400-1½ 559 (600-1½)	1460-2 619 (700-2)	1660-3 819 (900-3)	



WAAS  
CH 90128  
W35A

APP CRS  
348°

Rwy Idg  
TDZE  
Apt Elev

8000  
834  
841

For inoperative ALSF increase LPV visibility to RVR 4000.  
Baro-VNAV NA below -13°C (8°F).  
DME/DME RNP-0.3 NA

ALSF-2

MISSED APPROACH: Climb to 5000 direct CHETZ and via 333° track to GOPHER VORTAC and hold, continue climb-in-hold to 5000.

ATIS ARR 135.35 239.275 DEP 120.8	MINNEAPOLIS APP CON 119.3 335.5	MINNEAPOLIS TOWER 123.95 273.55 (12L-30R) 126.7 273.55 (12R-30L, 4-22) 123.675 273.55 (17-35)	GND CON N 121.8 348.6 S 121.9 348.6 W 127.925	CLNC DEL 133.2
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MISSED APCH FIX

Procedure NA for arrivals at LYDIA via V505 and V26 southwest bound.

Procedure NA for arrivals at LDASH via V218 southeast bound and V26 northeast bound.

Procedure NA for arrivals at LYDIA via V505 and V26 southwest bound.

Procedure NA for arrivals at PEPPER via V13-411 southbound.

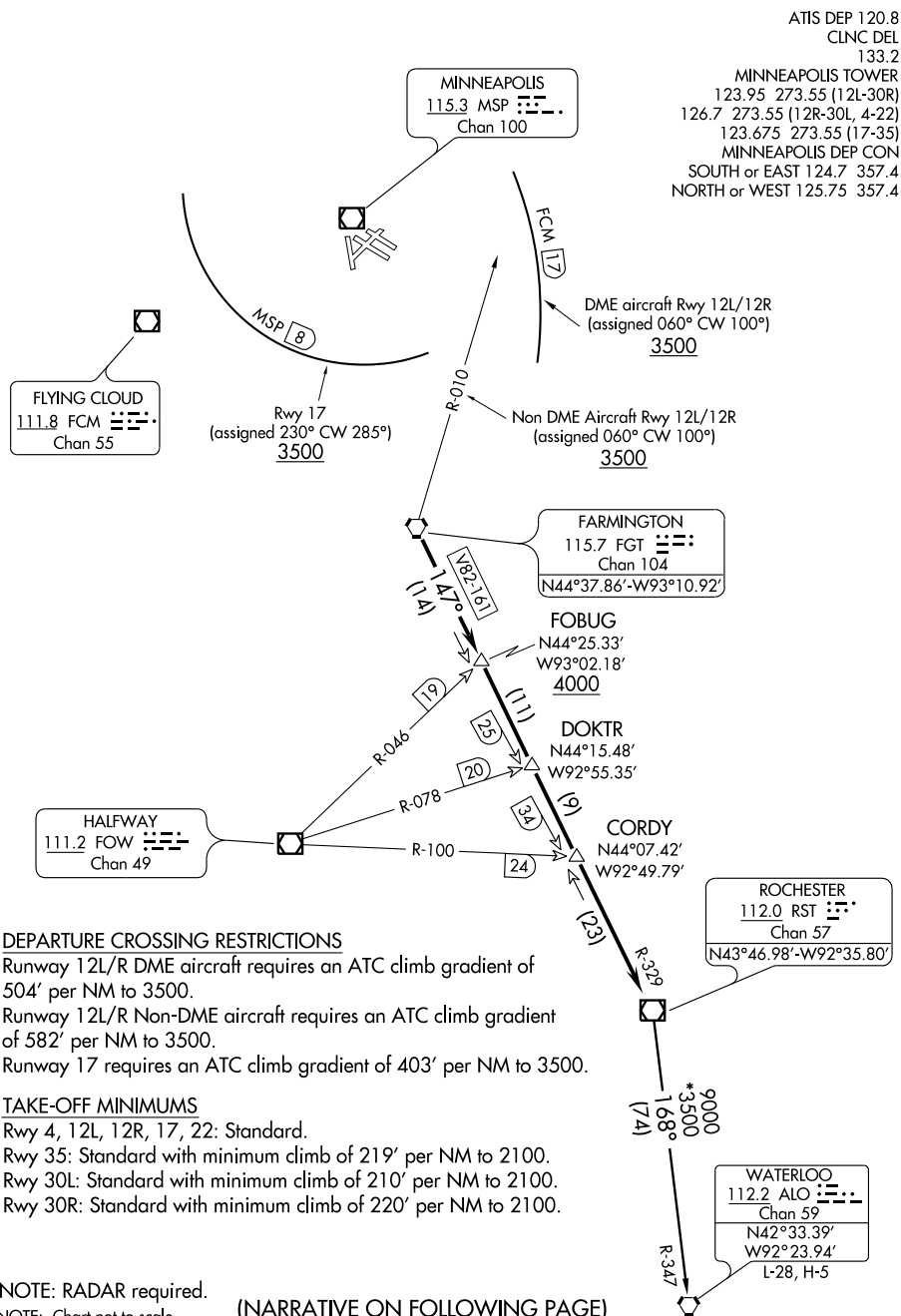
ELEV 841

HIRL all Rwys  
REIL Rwys 17 and 30R  
TDZ/CL Rwys 12L, 12R, 30L, and 35

CATEGORY	A	B	C	D
LPV DA	1084/24 250 (300-½)			
LNNAV/VNAV DA	1341/60 507 (500-1¼)			
LNNAV MDA	1540/24 706 (700-½)	1540-1½ 706 (700-1½)	1540-1¾ 706 (700-1¾)	
CIRCLING	1540-1 699 (700-1)	1540-2 699 (700-2)	1540-2¼ 699 (700-2¼)	

NC-1: 22 OCT 2009 to 19 NOV 2009







## DEPARTURE ROUTE DESCRIPTION

TAKE-OFF ALL RUNWAYS: Fly assigned heading for radar vectors to FGT VORTAC then via FGT R-147 and RST R-329 to RST VOR/DME. Cross FOBUG INT/FGT 14 DME at or above 4000. Turbojet aircraft maintain 7000 or lower assigned altitude, all other aircraft maintain 5000 or lower assigned altitude.

DME EQUIPPED AIRCRAFT RWY 12L/12R DEPARTURES: Initially assigned heading 060° clockwise to 100°, cross FCM 17 DME at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence. . . .

TAKE-OFF RUNWAY 17: Initially assigned heading 230° clockwise to 285° cross MSP 8 DME at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence. . . .

NON DME EQUIPPED AIRCRAFT RWY 12L/12R DEPARTURES: Initially assigned heading 060° clockwise to 100°: cross FGT R-010 at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence. . . .

TAKE-OFF RUNWAYS 4, 22, 30L/30R, 35: Initially assigned heading. Thence. . . .

. . . .via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

WATERLOO TRANSITION (RST3.ALO): From over RST VOR/DME via RST R-168 and ALO R-347 to ALO VORTAC.

## TAKE-OFF OBSTACLE NOTES

**RWY 4:** Multiple trees beginning 800' from DER, 264' left of centerline, up to 75' AGL/921' MSL.

Rod on building 2528' from DER, 1175' left of centerline, 78' AGL/922' MSL.

Fence 803' from DER, 585' left of centerline, 15' AGL/860' MSL.

Antenna on OL building 456' from DER, 319' left of centerline, 13' AGL/850' MSL.

Light poles 1932' from DER, 718' left of centerline, 45' AGL/885' MSL.

Stack 4535' from DER, 481' left of centerline, 139' AGL/949' MSL.

**RWY 22:** Tree 2906' from DER, 833' right of centerline, 94' AGL/934' MSL.

Hopper 1716' from DER, 456' left of centerline, 48' AGL/888' MSL.

**RWY 17:** Antenna 1272' from DER, 562' right of centerline, 57' AGL/891' MSL.

Pole 409' from DER, 530' right of centerline, 29' AGL/866' MSL.

Wind direction indicator on building 2619' from DER, 881' left of centerline, 97' AGL/918' MSL.

Building 2619' from DER, 859' left of centerline, 84' AGL/905' MSL.

Light 1176' from DER, 291' right of centerline, 11' AGL/875' MSL.

Tree 2619' from DER, on centerline, 79' AGL/900' MSL.

**RWY 30L:** Multiple trees beginning 1113' from DER, 701' left of centerline, up to 80' AGL/919' MSL.

Tree 1230' from DER, 633' right of centerline, 30' AGL/877' MSL.

Ground 28' from DER, 490' right of centerline 0' AGL/844' MSL.

**RWY 30R:** Building 1056' from DER, 198' left of centerline, 13' AGL/853' MSL.

Multiple trees beginning 3010' from DER, 334' left of centerline, up to 94' AGL/940' MSL.

Light pole 1849' from DER, 698' right of centerline, 17' AGL/871' MSL.

Fence 1327' from DER, 667' right of centerline, 8' AGL/857' MSL.

Tree 3703' from DER, 350' right of centerline, 67' AGL/914' MSL.

Rod on pole 3143' from DER, 47' right of centerline, 38' AGL/898' MSL.

**RWY 35:** Tree 175' from DER, 398' right of centerline, 73' AGL/883' MSL.

Multiple trees beginning 1989' from DER, 351' left of centerline, up to 65' AGL/902' MSL.

Multiple buildings beginning 5.5 NM from DER, 1787' left of centerline, up to 811' AGL/1743' MSL.

**RWY 12R:** Multiple trees beginning 1477' from DER, 407' left of centerline, up to 86' AGL/851' MSL.

Multiple trees beginning 1426' from DER, 124' right of centerline, up to 111' AGL/847' MSL.

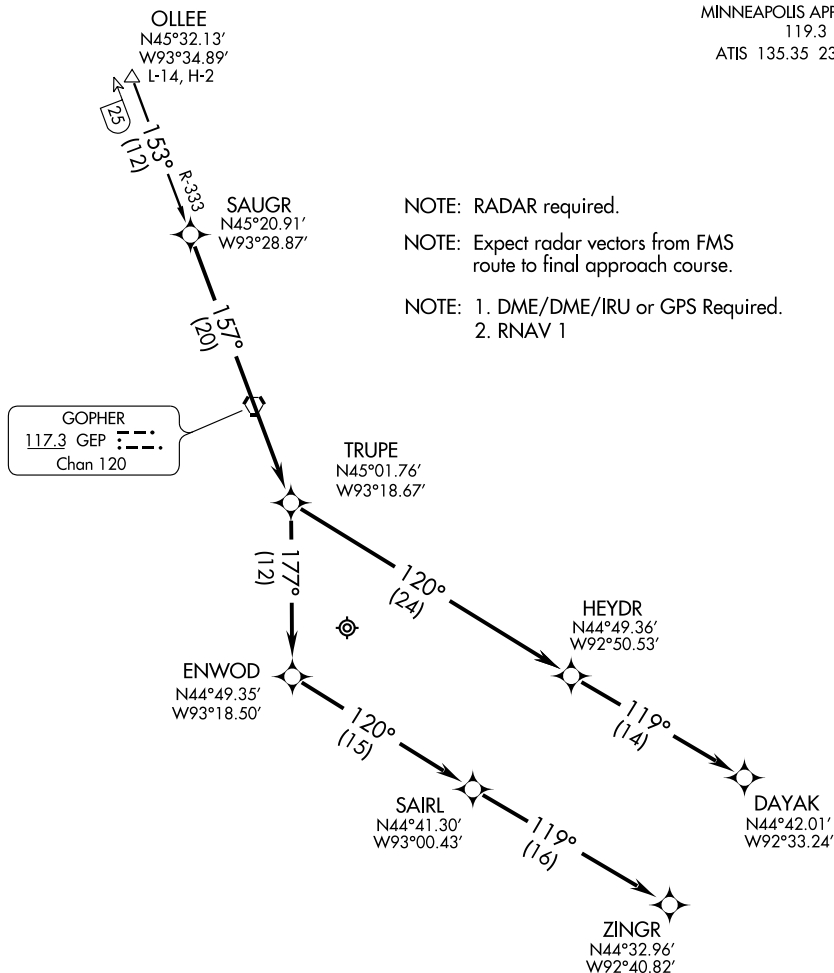
Light pole 1408' from DER, 746' right of centerline, 85' AGL/843' MSL.

Radar reflector 983' from DER, 32' left of centerline, 15' AGL/829' MSL.

Pipe on building, 826' from DER, 576' left of centerline, 10' AGL/825' MSL.

OL on LOC 766' from DER, on centerline, 7' AGL/821' MSL.

## SAUGR ONE (FMS) ARRIVAL

MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN  
ST-264 (FAA) MINNEAPOLIS, MINNESOTAMINNEAPOLIS APP CON  
119.3 335.5  
ATIS 135.35 239.275

NOTE: Chart not to scale.

Via the GOPHER STAR from over SAUGR WP. Thence . . .

FOR RUNWAY 30L ARRIVALS: To TRUPE WP to ENWOD WP to SAIRL WP to ZINGR WP.FOR RUNWAY 30R ARRIVALS: To TRUPE WP to HEYDR WP to DAYAK WP.







## DEPARTURE ROUTE DESCRIPTION

**TAKE-OFF ALL RUNWAYS:** Fly assigned heading for radar vectors to MSP R-232 to SCHEP INT/MSP 66 DME. Turbojet aircraft maintain 7000 or lower assigned altitude, all other aircraft maintain 5000 or lower assigned altitude.

**DME EQUIPPED AIRCRAFT RWY 12L/12R DEPARTURES:** Initially assigned heading 060° clockwise to 100°, cross FCM 17 DME at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence. . . .

**TAKE-OFF RUNWAY 17:** Initially assigned heading 230° clockwise to 285° cross MSP 8 DME at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence. . . .

**NON DME EQUIPPED AIRCRAFT RWY 12L/12R DEPARTURES:** Initially assigned heading 060° clockwise to 100°, cross FGT R-010 at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence. . . .

**TAKE-OFF RUNWAYS 4, 22, 30L/30R, 35:** Initially assigned heading, thence. . . .

. . . . via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

**O'NEILL TRANSITION (SCHEP2.ONL):** From over SCHEP INT via OTG R-045 to OTG VOR/DME. Then via OTG R-236 and ONL R-052 to ONL VORTAC.

**WOLBACH TRANSITION (SCHEP2.OBH):** From over SCHEP INT via OTG R-045 to OTG VOR/DME. Then via OTG R-215 and OBH R-034 to OBH VORTAC.

### TAKE-OFF OBSTACLE NOTES

**RWY 4:** Multiple trees beginning 800' from DER, 264' left of centerline, up to 75' AGL/921' MSL.

Rod on building 2528' from DER, 1175' left of centerline, 78' AGL/922' MSL.

Fence 803' from DER, 585' left of centerline, 15' AGL/860' MSL.

Antenna on OL building 456' from DER, 319' left of centerline, 13' AGL/850' MSL.

Light poles 1932' from DER, 718' left of centerline, 45' AGL/885' MSL.

Stack 4535' from DER, 481' left of centerline, 139' AGL/949' MSL.

**RWY 22:** Tree 2906' from DER, 833' right of centerline, 94' AGL/934' MSL.

Hopper 1716' from DER, 456' left of centerline, 48' AGL/888' MSL.

**RWY 30L:** Multiple trees beginning 1113' from DER, 701' left of centerline , up to 80' AGL/919' MSL.

Tree 1230' from DER, 633' right of centerline, 30' AGL/877' MSL.

Ground 28' from DER, 490' right of centerline, 0' AGL/844' MSL.

**RWY 17:** Antenna 1272' from DER, 562' right of centerline, 57' AGL/891' MSL.

Pole 409' from DER, 530' right of centerline, 29' AGL/866' MSL.

Wind direction indicator on building 2619' from DER, 881' left of centerline, 97' AGL/918' MSL.

Building 2619' from DER, 859' left of centerline, 84' AGL/905' MSL.

Light 1176' from DER, 291' right of centerline, 11' AGL/875' MSL.

Tree 2619' from DER, on centerline , 79' AGL/900' MSL.

**RWY 30R:** Building 1056' from DER, 198' left of centerline, 13' AGL/853' MSL.

Multiple trees beginning 3010' from DER, 334' left of centerline, up to 94' AGL/940' MSL.

Light pole 1849' from DER, 698' right of centerline, 17' AGL/871' MSL.

Fence 1327' from DER, 667' right of centerline, 8' AGL/ 857' MSL.

Tree 3703' from DER, 350' right of centerline, 67' AGL/ 914' MSL.

Rod on pole 3143' from DER, 47' right of centerline, 38' AGL/898' MSL.

**RWY 35:** Tree 175' from DER, 398' right of centerline, 73' AGL/883' MSL.

Multiple trees beginning 1989' from DER, 351' left of centerline, up to 65' AGL/902' MSL.

Multiple buildings beginning 5.5 NM from DER, 1787' left of centerline, up to 811' AGL/1743' MSL.

**RWY 12R:** Multiple trees beginning 1477' from DER, 407' left of centerline, up to 86' AGL/851' MSL.

Multiple trees beginning 1426' from DER, 124' right of centerline, up to 111' AGL/847' MSL.

Light pole 1408' from DER, 746' right of centerline, 85' AGL/843' MSL.

Radar reflector 983' from DER, 32' left of centerline, 15' AGL/829' MSL.

Pipe on building 826' from DER, 576' left of centerline, 10' AGL/825' MSL.

OL on LOC 766' from DER, on centerline, 7' AGL/821' MSL.

## SKETR THREE ARRIVAL

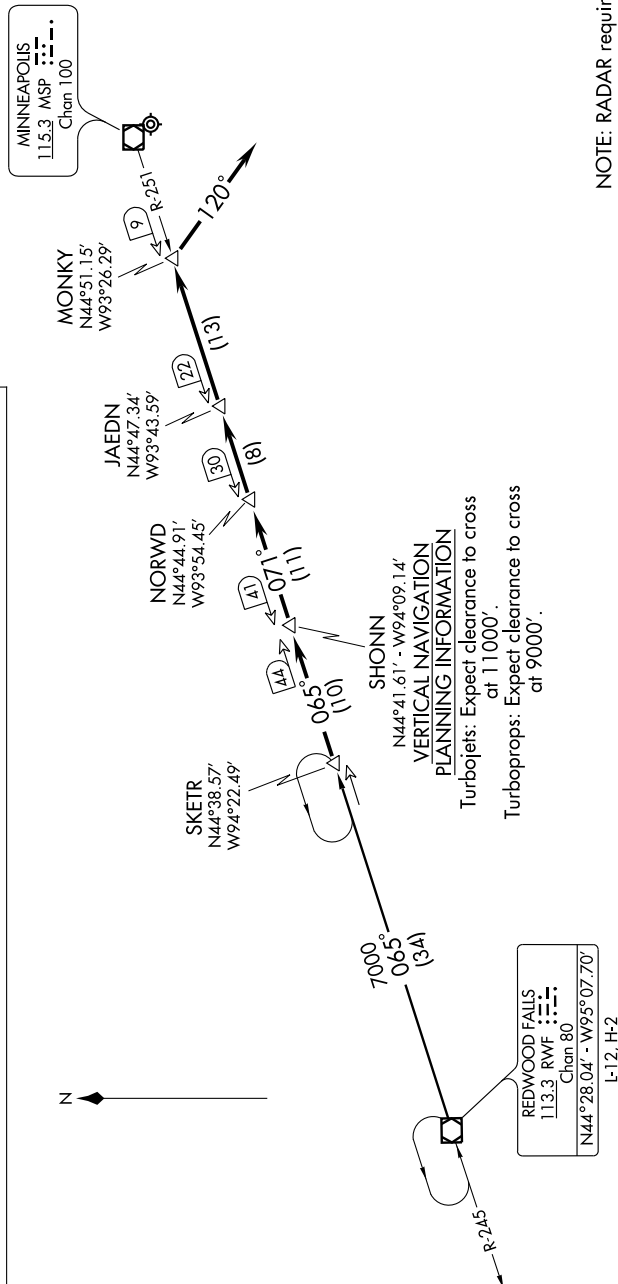
MINNEAPOLIS APP CON  
119.3 335.5  
ATIS 135.35 239.275

REDWOOD FALLS TRANSITION (RWF.SKETR3): From over RWF VOR/DME via RWF R-065 to SKETR/34 DME. Thence....

.... Via the RWF R-065 to SKETR/34 DME, then to SHONN/44 DME, then via MSP R-251 to NORWD/30 DME, then to JAEDN/22 DME, then to MONKY/9 DME. Thence....

LANDING MSP RUNWAYS 30L/R, 35: Via 120° heading for radar vectors to final approach course.

ALL OTHER RUNWAYS: Via radar vectors to final approach course.



ATIS DEP 120.8  
CLNC DEL  
133.2  
MINNEAPOLIS TOWER  
123.95 273.55 (12L-30R)  
126.7 273.55 (12R-30L, 4-22)  
123.675 273.55 (17-35)  
MINNEAPOLIS DEP CON  
SOUTH or EAST 124.7 357.4  
NORTH or WEST 125.75 357.4

TAKE-OFF MINIMUMS:

Rwy 4, 22, 12L, 12R, 17: Standard.

Rwy 35: Standard with minimum climb of 219' per NM to 2100.

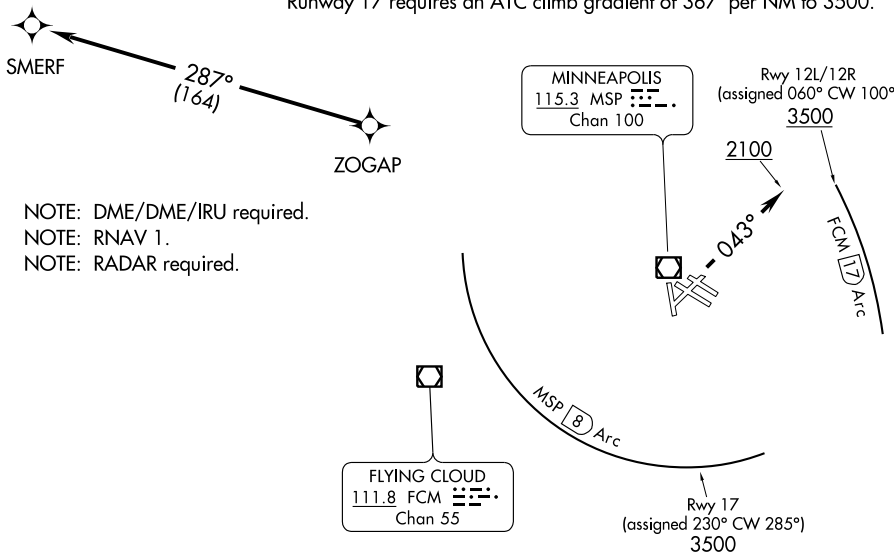
Rwy 30L: Standard with minimum climb of 210 feet per NM to 2100.

Rwy 30R: Standard with minimum climb of 220 feet per NM to 2100.

DEPARTURE CROSSING RESTRICTIONS:

Runway 12L/R requires an ATC climb gradient of 504' per NM to 3500.

Runway 17 requires an ATC climb gradient of 367' per NM to 3500.



(NOTES CONTINUED ON FOLLOWING PAGE)

**DEPARTURE ROUTE DESCRIPTION**

TAKE-OFF RUNWAY 4: Climb heading 043° to 2100. Thence....

TAKE-OFF RUNWAYS 12L/12R: Initially assigned heading 060° clockwise to 100°, cross FCM VOR/DME 17 DME Arc at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence....

TAKE-OFF RUNWAY 17: Initially assigned heading 230° clockwise to 285°, cross MSP VOR/DME 8 DME Arc at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence....

TAKE-OFF RUNWAYS 22, 35, 30L/R: Climb on assigned heading for radar vectors. Thence...

....expect radar vectors to ZOGAP, then via 287° track to SMERF. Turbojet aircraft maintain 7000 or lower assigned altitude, all other aircraft maintain 5000 or lower assigned altitude. Expect filed altitude/flight level 10 minutes after departure.

## SMERF TWO DEPARTURE(RNAV)

SL-264 (FAA)

MINNEAPOLIS, MINNESOTA

TAKE-OFF OBSTACLE NOTES

- RWY 4: Multiple trees beginning 800' from DER, 264' left of centerline, up to 75' AGL/921' MSL.  
Rod on building 2528' from DER, 1175' left of centerline, 78' AGL/922' MSL.  
Fence 803' from DER, 585' left of centerline, 15' AGL/860' MSL.  
Ant. on OL building 456' from DER, 319' left of centerline, 13' AGL/850' MSL.  
LT poles 1932' from DER, 718' left of centerline, 45' AGL/885' MSL.  
Stack 4535' from DER, 481' left of centerline, 139' AGL/949' MSL.
- RWY 22: Tree 2906' from DER, 833' right of centerline, 94' AGL/934' MSL.  
Hopper 1717' from DER, 456' left of centerline, 48' AGL/888' MSL.
- RWY 30L: Multiple trees beginning 1113' from DER, 701' left of centerline, up to 80' AGL/919' MSL.  
Tree 1230' from DER, 633' right of centerline, 30' AGL/877' MSL.  
Ground 28' from DER, 490' right of centerline, 0' AGL/844' MSL.
- RWY 17: Antenna 1272' from DER, 562' right of centerline, 57' AGL/891' MSL.  
Pole 409' from DER, 530' right of centerline, 29' AGL/866' MSL.  
Wind direction indicator on bldg 2619' from DER, 881' left of centerline, 97' AGL/918' MSL.  
Bldg 2619' from DER, 859' left of centerline, 84' AGL/905' MSL.  
LT 1176' from DER, 291' right of centerline, 11' AGL/875' MSL.  
Tree 2619' from DER, on centerline, 79' AGL/900' MSL.
- RWY 30R: Bldg 1056' from DER, 198' left of centerline, 13' AGL/853' MSL.  
Multiple trees beginning 3010' from DER, 334' left of centerline, up to 94' AGL/940' MSL.  
LT pole 1849' from DER, 698' right of centerline, 17' AGL/871' MSL.  
Fence 1327' from DER, 667' right of centerline, 8' AGL/857' MSL.  
Tree 3703' from DER, 350' right of centerline, 67' AGL/914' MSL.  
Rod on pole 3143' from DER, 47' right of centerline, 38' AGL/898' MSL.
- RWY 35: Tree 175' from DER, 398' right of centerline, 73' AGL/883' MSL.  
Multiple trees beginning 1989' from DER, 351' left of centerline, up to 65' AGL/902' MSL.  
Multiple buildings beginning 5.45 NM from DER, 1787' left of centerline, up to 811' AGL/1743' MSL.
- RWY 12R: Multiple trees beginning 1477' from DER, 407' left of centerline, up to 86' AGL/851' MSL.  
Multiple trees beginning 1426' from DER, 124' right of centerline, up to 111' AGL/847' MSL.  
LT pole 1408' from DER, 746' right of centerline, 85' AGL/843' MSL.  
Radar reflector 983' from DER, 32' left of centerline, 15' AGL/829' MSL.  
Pipe on bldg, 826' from DER, 576' left of centerline, 10' AGL/825' MSL.  
OL on LOC 766' from DER, on centerline, 7' AGL/821' MSL.

## TWOLF ONE ARRIVAL

ST-264 (FAA)

MINNEAPOLIS, MINNESOTA

MINNEAPOLIS APP CON  
126.95 335.5  
118.72 (MSP RWY 35)  
ANOKA COUNTY ATIS 120.625  
CRYSTAL ATIS 124.475  
FLYING CLOUD ATIS 124.9  
MINNEAPOLIS ATIS  
135.35 239.275  
ST. PAUL DOWNTOWN ATIS  
118.35

GOPHER  
117.3 GEP   
Chan 120

FLYING CLOUD  
111.8 FCM   
Chan 55  
N44°49.54'-W93°27.41'

TRGET

N44°13.88'-W93°27.73'

VERTICAL NAVIGATION

PLANNING INFORMATION

MSP: Expect clearance to cross at 11000'.

All other airports: Turbojet: Expect

clearance to cross at 8000'.

Turboprop: Expect clearance to  
cross at 7000'.

MANKATO  
110.8 MKT   
Chan 45

FORT DODGE  
113.5 FOD   
Chan 82  
N42°36.67'-W94°17.69'  
L-12, H-5

TICKT  
N42°53.71'  
W93°59.01'

TWOLF  
N43°17.00'  
W93°33.09'

KGEE  
N43°44.94'  
W93°30.48'

LYNKS  
N44°06.89'  
W93°28.39'

PIKKL  
N44°22.82'  
W93°21.49'

GDNEE  
N44°30.68'  
W93°15.97'

FARMINGTON  
115.7 FGT   
Chan 104  
N44°37.86'-W93°10.93'

ANOKA COUNTY-BLAINE AIRPORT  
(JANES FIELD)

ST. PAUL DOWNTOWN  
HOLMAN FIELD

MINNEAPOLIS-ST. PAUL INTL/  
WOLD CHAMBERLAIN

SLIKK  
N44°47.90'  
W93°17.21'

AIRLAKE

FLYING CLOUD

GOPHER  
117.3 GEP   
Chan 120

CRYSTAL

ST. PAUL DOWNTOWN  
HOLMAN FIELD

MINNEAPOLIS-ST. PAUL INTL/  
WOLD CHAMBERLAIN

SLIKK  
N44°47.90'  
W93°17.21'

AIRLAKE

GDNEE  
N44°30.68'  
W93°15.97'

PIKKL  
N44°22.82'  
W93°21.49'

LYNKS  
N44°06.89'  
W93°28.39'

KGEE  
N43°44.94'  
W93°30.48'

TWOLF  
N43°17.00'  
W93°33.09'

TICKT  
N42°53.71'  
W93°59.01'

FORT DODGE  
113.5 FOD   
Chan 82  
N42°36.67'-W94°17.69'  
L-12, H-5

MANKATO  
110.8 MKT   
Chan 45

FLYING CLOUD  
111.8 FCM   
Chan 55  
N44°49.54'-W93°27.41'

GOPHER  
117.3 GEP   
Chan 120

ANOKA COUNTY-BLAINE AIRPORT  
(JANES FIELD)

ST. PAUL DOWNTOWN  
HOLMAN FIELD

MINNEAPOLIS-ST. PAUL INTL/  
WOLD CHAMBERLAIN

SLIKK  
N44°47.90'  
W93°17.21'

AIRLAKE

GDNEE  
N44°30.68'  
W93°15.97'

PIKKL  
N44°22.82'  
W93°21.49'

LYNKS  
N44°06.89'  
W93°28.39'

KGEE  
N43°44.94'  
W93°30.48'

TWOLF  
N43°17.00'  
W93°33.09'

TICKT  
N42°53.71'  
W93°59.01'

NOTE: RADAR required.

NOTE: DME required.

(NARRATIVE ON FOLLOWING PAGE)

NOTE: Chart not to scale.

## ARRIVAL DESCRIPTION

FORT DODGE TRANSITION (FOD.TWOLF1): From over FOD VORTAC via FOD R-032 to TWOLF. Thence....

....From over TWOLF via GEP R-178 to KGEFF, then via GEP R-178 to TRGET INT, then via FGT R-201 to FGT VORTAC. Thence....

LANDING MSP RWYS 12L/R: From over FGT VORTAC via FGT R-330 to SLIKK, thence via 300° heading for radar vectors to final approach course.

LANDING MSP RWYS 30L/R, 4, 22, 17, 35: Via radar vectors to final approach course.

ALL OTHER AIRPORTS: From over TRGET INT via FCM VOR/DME R-174 to FCM VOR/DME then expect radar vectors to final approach course.

## TAKE-OFF OBSTACLE NOTES

RWY 4: Multiple trees beginning 800' from DER, 264' left of centerline, up to 75' AGL/921' MSL.

Rod on building 2528' from DER, 1175' left of centerline, 78' AGL/922' MSL.

Fence 803' from DER, 585' left of centerline, 15' AGL/860' MSL.

Antenna on OL building 456' from DER, 319' left of centerline, 13' AGL/850' MSL.

Light poles 1932' from DER, 718' left of centerline, 45' AGL/885' MSL.

Stack 4535' from DER, 481' left of centerline, 139' AGL/949' MSL.

(NOTES CONTINUED ON FOLLOWING PAGE)

ATIS DEP 120.8

CLNC DEL

133.2

MINNEAPOLIS TOWER

123.95 273.55 (12L-30R)

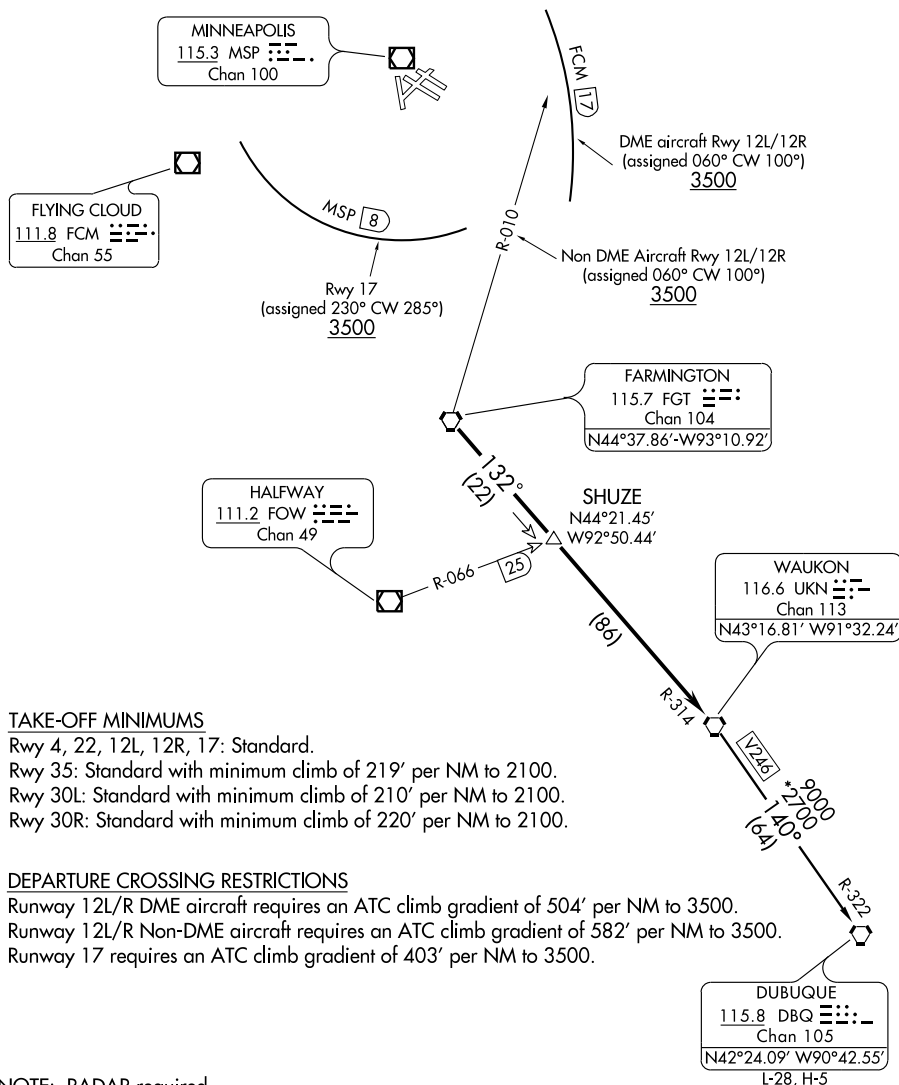
126.7 273.55 (12R-30L, 4-22)

123,675 273,55 (17-35)

MINNEAPOLIS DEP CON

SOUTH or EAST 124.7 357.4

NORTH or WEST 125.75 357.4



NOTE: RADAR required.

NOTE: Chart not to scale.

(NARRATIVE ON FOLLOWING PAGE)

NC-1. 22 OCT 2009 to 19 NOV 2009





## DEPARTURE ROUTE DESCRIPTION

**TAKE-OFF ALL RUNWAYS:** Fly assigned heading for radar vectors to FGT VORTAC then via FGT R-132 and UKN R-314 to UKN VORTAC. Turbojet aircraft maintain 7000 or lower assigned altitude, all other aircraft maintain 5000 or lower assigned altitude.

**DME EQUIPPED AIRCRAFT RWY 12L/12R DEPARTURES:** Initially assigned heading 060° clockwise to 100°, cross FCM 17 DME at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence. . . .

**TAKE-OFF RUNWAY 17:** Initially assigned heading 230° clockwise to 285° cross MSP 8 DME at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence. . . .

**NON DME EQUIPPED AIRCRAFT RWY 12L/12R DEPARTURES:** Initially assigned heading 060° clockwise to 100°: cross FGT R-010 at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence. . . .

**TAKE-OFF RUNWAYS 4, 22, 30L/30R, 35:** Initially assigned heading. Thence. . . .

. . . .via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

**DUBUQUE TRANSITION (UKN2.DBQ):** From over UKN VORTAC via UKN R-140 and DBQ R-322 to DBQ VORTAC.

## TAKE-OFF OBSTACLE NOTES (cont.)

RWY 22: Tree 2906' from DER, 833' right of centerline, 94' AGL/934' MSL.

Hopper 1716' from DER, 456' left of centerline, 48' AGL/888' MSL.

RWY 17: Antenna 1272' from DER, 562' right of centerline, 57' AGL/891' MSL.

Pole 409' from DER, 530' right of centerline, 29' AGL/866' MSL.

Wind direction indicator on building 2619' from DER, 881' left of centerline, 97' AGL/918' MSL.

Building 2619' from DER, 859' left of centerline, 84' AGL/905' MSL.

Light 1176' from DER, 291' right of centerline, 11' AGL/875' MSL.

Tree 2619' from DER, on centerline, 79' AGL/900' MSL.

RWY 30L: Multiple trees beginning 1113' from DER, 701' left of centerline, up to 80' AGL/919' MSL.

Tree 1230' from DER, 633' right of centerline, 30' AGL/877' MSL.

Ground 28' from DER, 490' right of centerline 0' AGL/844' MSL.

RWY 30R: Building 1056' from DER, 198' left of centerline, 13' AGL/853' MSL.

Multiple trees beginning 3010' from DER, 334' left of centerline, up to 94' AGL/940' MSL.

Light pole 1849' from DER, 698' right of centerline, 17' AGL/871' MSL.

Fence 1327' from DER, 667' right of centerline, 8' AGL/857' MSL.

Tree 3703' from DER, 350' right of centerline, 67' AGL/914' MSL.

Rod on pole 3143' from DER, 47' right of centerline, 38' AGL/898' MSL.

RWY 35: Tree 175' from DER, 398' right of centerline, 73' AGL/883' MSL.

Multiple trees beginning 1989' from DER, 351' left of centerline, up to 65' AGL/902' MSL.

Multiple buildings beginning 5.5 NM from DER, 1787' left of centerline, up to 811' AGL/1743' MSL.

RWY 12R: Multiple trees beginning 1477' from DER, 407' left of centerline, up to 86' AGL/851' MSL.

Multiple trees beginning 1426' from DER, 124' right of centerline, up to 111' AGL/847' MSL.

Light pole 1408' from DER, 746' right of centerline, 85' AGL/843' MSL.

Radar reflector 983' from DER, 32' left of centerline, 15' AGL/829' MSL.

Pipe on building, 826' from DER, 576' left of centerline, 10' AGL/825' MSL.

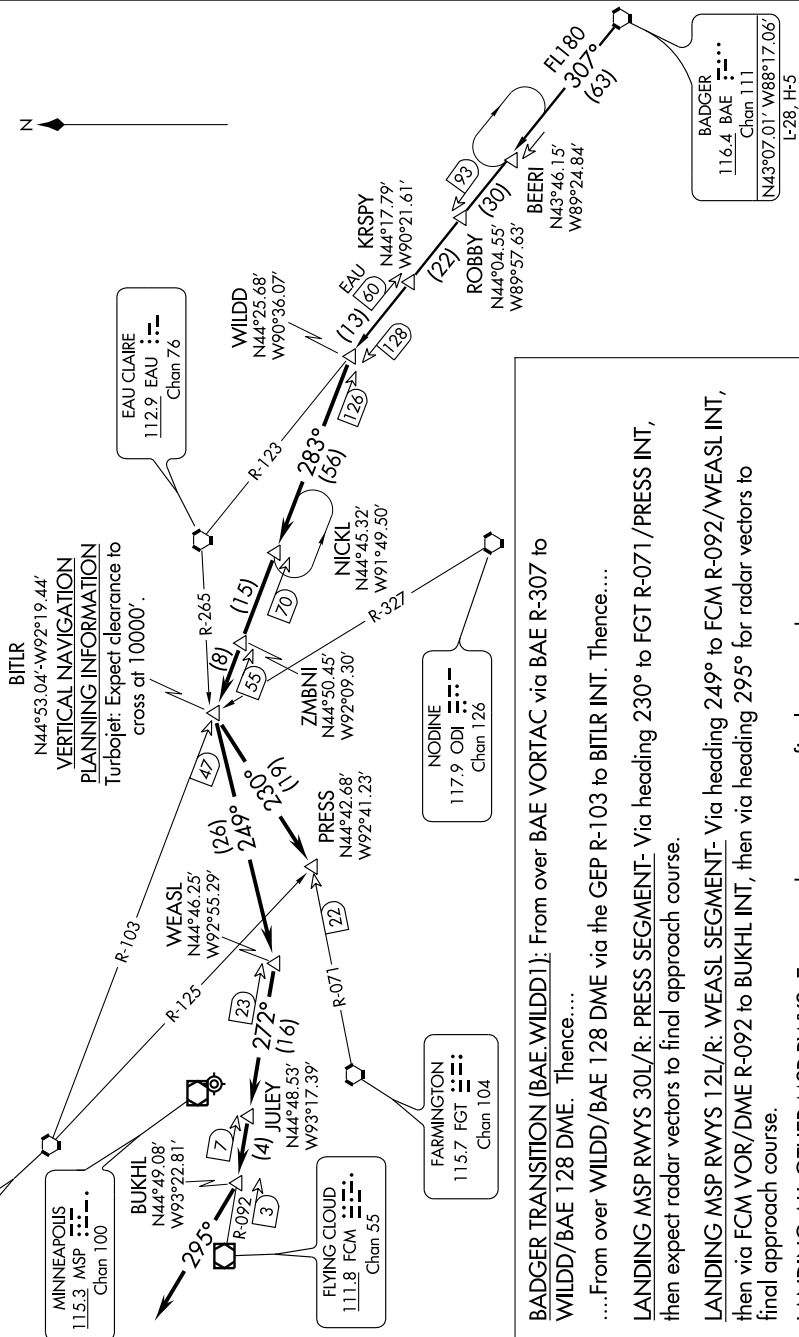
OL on LOC 766' from DER, on centerline, 7' AGL/821' MSL.

# WILDD ONE ARRIVAL

MINNEAPOLIS ST PAUL INTL/WOLD-CHAMBERLAIN  
ST-264 (FAA) MINNEAPOLIS, MINNESOTA

MINNEAPOLIS APP CON  
119.3 335.5  
ATIS 135.35 239 275

NOTE: Arrival Procedure assignable by ATC only - Do Not File.  
NOTE: DME and RADAR required.



**BADGER TRANSITION (BAE WILDD1):** From over BAE VORTAC via BAE R-307 to WILDD/BAE 128 DME. Thence....  
....From over WILDD/BAE 128 DME via the GEP R-103 to BITLR INT. Thence....  
**LANDING MSP RWYS 30L/R:** PRESS SEGMENT- Via heading 230° to FGT R-071/PRESS INT, then expect radar vectors to final approach course.  
**LANDING MSP RWYS 12L/R:** WEASL SEGMENT- Via heading 249° to FCM R-092/WEASL INT, then via FCM VOR/DME R-092 to BUKHL INT, then via heading 295° for radar vectors to final approach course.  
**LANDING ALL OTHER MSP RWYS:** Expect radar vectors to final approach course.

WLSTN TWO DEPARTURE

SL-264 (FAA)

MINNEAPOLIS, MINNESOTA

ATIS DEP 120.8  
CLINC DEL  
133.2  
MINNEAPOLIS TOWER  
123.95 273.55 (12L-30R)  
126.7 273.55 (12R-30L, 4-22)  
123.675 273.55 (17-35)  
MINNEAPOLIS DEP CON  
SOUTH or EAST 124.7 357.4  
NORTH or WEST 125.75 357.4

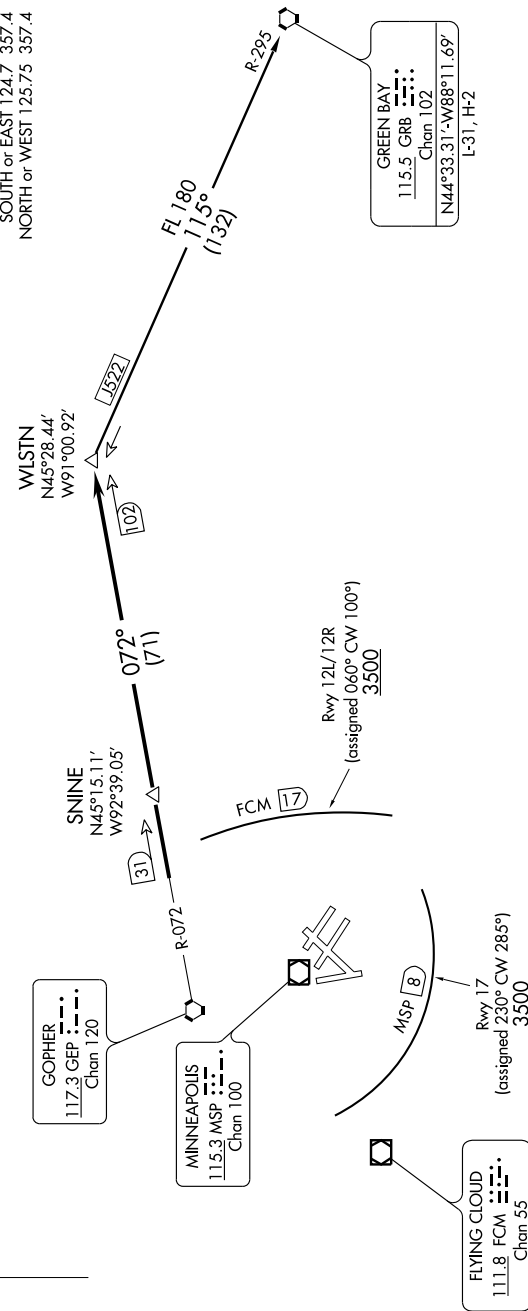
## TAKE-OFF MINIMUMS

Rwy 4, 22, 12L, 12R, 17: Standard.

Rwy 35: Standard with minimum climb of 219' per NM to 2100.

Rwy 30L: Standard with minimum climb of 210' per NM to 2100.

Rwy 30R: Standard with minimum climb of 220' per NM to 2100.



## DEPARTURE CROSSING RESTRICTIONS

Runway 12L/R DME aircraft requires an ATC climb gradient of 504' per NM to 3500.

Runway 17 requires an ATC climb gradient of 403' per NM to 3500.

NOTE: RADAR and DME required.

NOTE: Chart not to scale.

(NARRATIVE ON FOLLOWING PAGE)

NC-1. 22 OCT 2009 to 19 NOV 2009



## DEPARTURE ROUTE DESCRIPTION

TAKE-OFF ALL RUNWAYS: Fly assigned heading for radar vectors to GEP R-072 to WLSTN/GEP 102 DME. Turbojet aircraft maintain 7000 or lower assigned altitude, all other aircraft maintain 5000 or lower assigned altitude.

TAKE-OFF RUNWAY 12L/12R: Initially assigned heading 060° clockwise to 100°, cross FCM 17 DME at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence. . . .

TAKE-OFF RUNWAY 17: Initially assigned heading 230° clockwise to 285° cross MSP 8 DME at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence. . . .

TAKE-OFF RUNWAYS 4, 22, 30L/30R, 35: Initially assigned heading. Thence. . . .

. . . .via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

GREEN BAY TRANSITION (WLSTN2.GRB): From over WLSTN INT via GRB R-295 to GRB VORTAC.

## TAKE-OFF OBSTACLE NOTES

RWY 4: Multiple trees beginning 800' from DER, 264' left of centerline, up to 75' AGL/921' MSL.

Rod on building 2528' from DER, 1175' left of centerline, 78' AGL/922' MSL.

Fence 803' from DER, 585' left of centerline, 15' AGL/860' MSL.

Antenna on OL building 456' from DER, 319' left of centerline, 13' AGL/850' MSL.

Light poles 1932' from DER, 718' left of centerline, 45' AGL/885' MSL.

Stack 4535' from DER, 481' left of centerline, 139' AGL/949' MSL.

RWY 22: Tree 2906' from DER, 833' right of centerline, 94' AGL/934' MSL.

Hopper 1716' from DER, 456' left of centerline, 48' AGL/888' MSL.

RWY 30L: Multiple trees beginning 1113' from DER, 701' left of centerline, up to 80' AGL/919' MSL.

Tree 1230' from DER, 633' right of centerline, 30' AGL/877' MSL.

Ground 28' from DER, 490' right of centerline, 0' AGL/844' MSL.

RWY 17: Antenna 1272' from DER, 562' right of centerline, 57' AGL/891' MSL.

Pole 409' from DER, 530' right of centerline, 29' AGL/866' MSL.

Wind direction indicator on building 2619' from DER, 881' left of centerline, 97' AGL/918' MSL.

Building 2619' from DER, 859' left of centerline, 84' AGL/905' MSL.

Light 1176' from DER, 291' right of centerline, 11' AGL/875' MSL.

Tree 2619' from DER, on centerline, 79' AGL/900' MSL.

RWY 30R: Building 1056' from DER, 198' left of centerline, 13' AGL/853' MSL.

Multiple trees beginning 3010' from DER, 334' left of centerline, up to 94' AGL/940' MSL.

Light pole 1849' from DER, 698' right of centerline, 17' AGL/871' MSL.

Fence 1327' from DER, 667' right of centerline, 8' AGL/ 857' MSL.

Tree 3703' from DER, 350' right of centerline, 67' AGL/ 914' MSL.

Rod on pole 3143' from DER, 47' right of centerline, 38' AGL/898' MSL.

RWY 35: Tree 175' from DER, 398' right of centerline, 73' AGL/883' MSL.

Multiple trees beginning 1989' from DER, 351' left of centerline, up to 65' AGL/902' MSL.

Multiple buildings beginning 5.5 NM from DER, 1787' left of centerline, up to 811' AGL/1743' MSL.

RWY 12R: Multiple trees beginning 1477' from DER, 407' left of centerline, up to 86' AGL/851' MSL.

Multiple trees beginning 1426' from DER, 124' right of centerline, up to 111' AGL/847' MSL.

Light pole 1408' from DER, 746' right of centerline, 85' AGL/843' MSL.

Radar reflector 983' from DER, 32' left of centerline, 15' AGL/829' MSL.

Pipe on building 826' from DER, 576' left of centerline, 10' AGL/825' MSL.

OL on LOC 766' from DER, on centerline, 7' AGL/821' MSL.

MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)  
SL-264 (FAA) MINNEAPOLIS, MINNESOTA

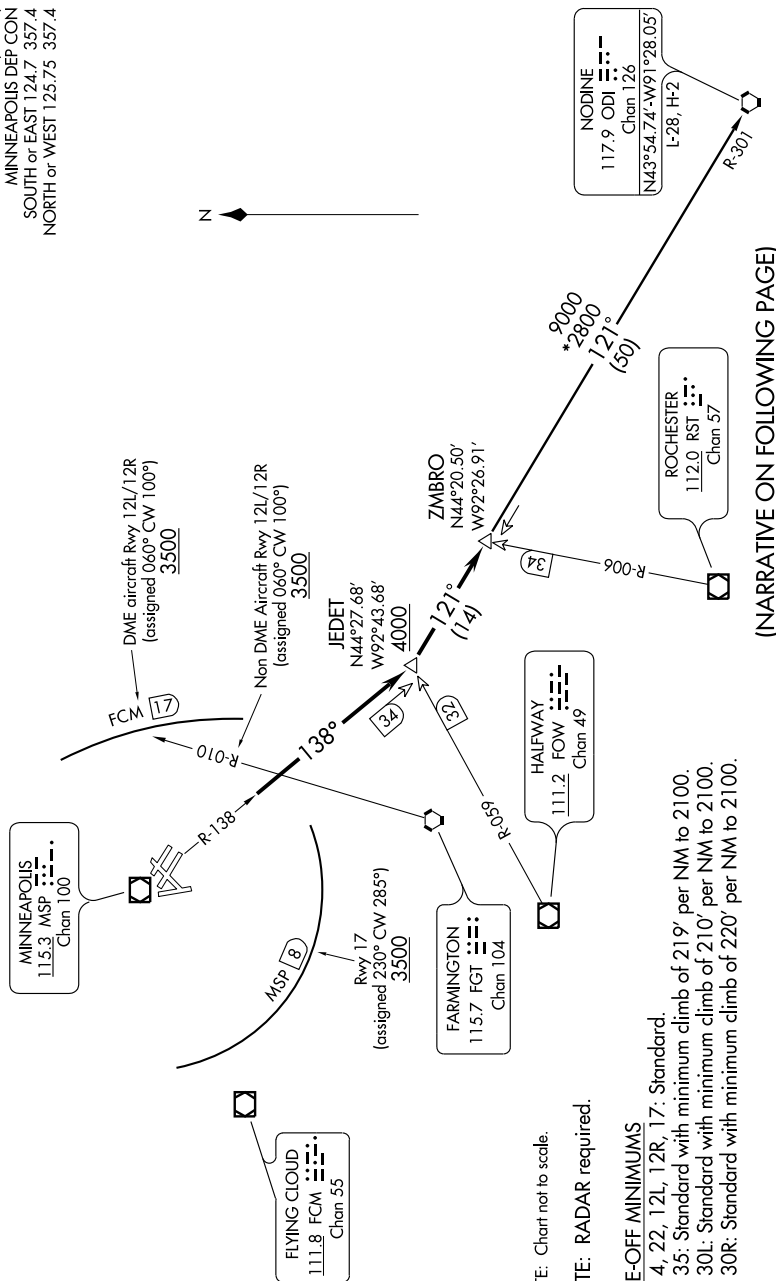
ATIS DEP 120.8  
 CLINC DEL  
 133.2  
 MINNEAPOLIS TOWER  
 123.95 273.55 (12L-30R)  
 126.7 273.55 (12R-30L, 4-22)  
 123.675 273.55 (17-35)  
 MINNEAPOLIS DEP CON  
 SOUTH or EAST 124.7 357.4  
 NORTH or WEST 125.75 357.4

DEPARTURE CROSSING RESTRICTIONS

Runway 12L/R DME aircraft requires an ATC climb gradient of 504' per NM to 3500.

Runway 12L/R Non-DME aircraft requires an ATC climb gradient of 582' per NM to 3500.

Runway 17 requires an ATC climb gradient of 403' per NM to 3500.



(NARRATIVE ON FOLLOWING PAGE)

NC-1 22 OCT 2009 to 19 NOV 2009



## DEPARTURE ROUTE DESCRIPTION

**TAKE-OFF ALL RUNWAYS:** Fly assigned heading for radar vectors to MSP R-138 to JEDET INT/ MSP 34 DME, at or above 4000; then via ODI R-301 to ZMBRO INT/ODI 50 DME. Turbojet aircraft maintain 7000 or lower assigned altitude, all other aircraft maintain 5000 or lower assigned altitude.

**DME EQUIPPED AIRCRAFT RWY 12L/12R DEPARTURES:** Initially assigned heading 060° clockwise to 100°, cross FCM 17 DME at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence. . . .

**TAKE-OFF RUNWAY 17:** Initially assigned heading 230° clockwise to 285° cross MSP 8 DME at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence. . . .

**NON-DME EQUIPPED AIRCRAFT RWY 12L/12R DEPARTURES:** Initially assigned heading 060° clockwise to 100°, cross FGT R-010 at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence. . . .

**TAKE-OFF RUNWAYS 4, 22, 30L/30R, 35:** Initially assigned heading, thence. . . .

. . . . via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

**NODINE TRANSITION (ZMBRO2.ODI):** From over ZMBRO INT via ODI R-301 to ODI VORTAC.

## TAKE-OFF OBSTACLE NOTES

RWY 4: Multiple trees beginning 800' from DER, 264' left of centerline, up to 75' AGL/921' MSL.

Rod on building 2528' from DER, 1175' left of centerline, 78' AGL/922' MSL.

Fence 803' from DER, 585' left of centerline, 15' AGL/860' MSL.

Antenna on OL building 456' from DER, 319' left of centerline, 13' AGL/850' MSL.

Light poles 1932' from DER, 718' left of centerline, 45' AGL/885' MSL.

Stack 4535' from DER, 481' left of centerline, 139' AGL/949' MSL.

RWY 22: Tree 2906' from DER, 833' right of centerline, 94' AGL/934' MSL.

Hopper 1716' from DER, 456' left of centerline, 48' AGL/888' MSL.

RWY 30L: Multiple trees beginning 1113' from DER, 701' left of centerline, up to 80' AGL/919' MSL.

Tree 1230' from DER, 633' right of centerline, 30' AGL/877' MSL.

Ground 28' from DER, 490' right of centerline, 0' AGL/844' MSL.

RWY 17: Antenna 1272' from DER, 562' right of centerline, 57' AGL/891' MSL.

Pole 409' from DER, 530' right of centerline, 29' AGL/866' MSL.

Wind direction indicator on building 2619' from DER, 881' left of centerline, 97' AGL/918' MSL.

Building 2619' from DER, 859' left of centerline, 84' AGL/905' MSL.

Light 1176' from DER, 291' right of centerline, 11' AGL/875' MSL.

Tree 2619' from DER, on centerline, 79' AGL/900' MSL.

RWY 30R: Building 1056' from DER, 198' left of centerline, 13' AGL/853' MSL.

Multiple trees beginning 3010' from DER, 334' left of centerline, up to 94' AGL/940' MSL.

Light pole 1849' from DER, 698' right of centerline, 17' AGL/871' MSL.

Fence 1327' from DER, 667' right of centerline, 8' AGL/ 857' MSL.

Tree 3703' from DER, 350' right of centerline, 67' AGL/ 914' MSL.

Rod on pole 3143' from DER, 47' right of centerline, 38' AGL/898' MSL.

RWY 35: Tree 175' from DER, 398' right of centerline, 73' AGL/883' MSL.

Multiple trees beginning 1989' from DER, 351' left of centerline, up to 65' AGL/902' MSL.

Multiple buildings beginning 5.5 NM from DER, 1787' left of centerline, up to 811' AGL/1743' MSL.

RWY 12R: Multiple trees beginning 1477' from DER, 407' left of centerline, up to 86' AGL/851' MSL.

Multiple trees beginning 1426' from DER, 124' right of centerline, up to 111' AGL/847' MSL.

Light pole 1408' from DER, 746' right of centerline, 85' AGL/843' MSL.

Radar reflector 983' from DER, 32' left of centerline, 15' AGL/829' MSL.

Pipe on building 826' from DER, 576' left of centerline, 10' AGL/825' AGL.

OL on LOC 766' from DER, on centerline, 7' AGL/821' MSL.

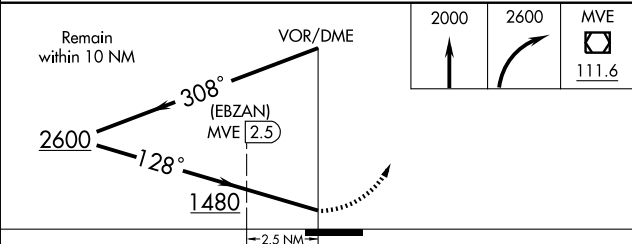
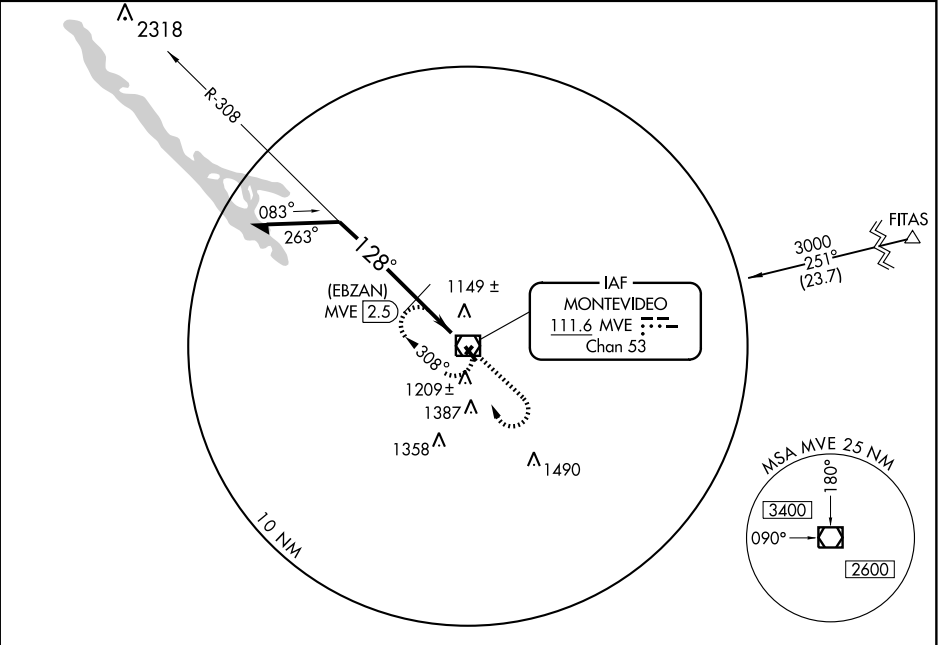
VOR/DME MVE <b>111.6</b> Chan <b>53</b>	APP CRS <b>128°</b>	Rwy Idg TDZE Apt Elev <b>4000</b> <b>1034</b> <b>1034</b>
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VOR or GPS RWY 14  
MONTEVIDEO-CHIPPEWA COUNTY (MVE)

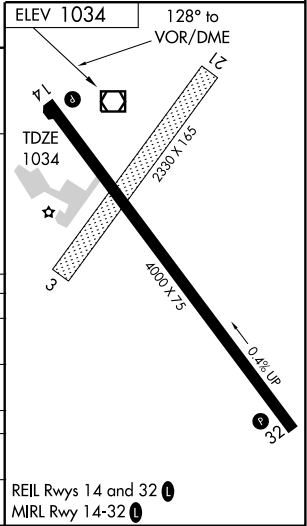
NA

MISSED APPROACH: Climb to 2000 then climbing right turn to 2600 direct MVE VOR/DME and hold.

AWOS-3 <b>111.6</b>	MINNEAPOLIS CENTER <b>125.5 323.1</b>	UNICOM <b>122.8 (CTAF)</b>
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CATEGORY	A	B	C	D
S-14	1480-1	446 (500-1)	1480-1¼ 446 (500-1¼)	1480-1½ 446 (500-1½)
CIRCLING	1520-1	486 (500-1)	1520-1½ 486 (500-1½)	1700-2 666 (700-2)
DME MINIMUMS				
S-14	1400-1	366 (400-1)	1400-1¼ 366 (400-1¼)	1400-1½ 366 (400-1½)
CIRCLING	1520-1	486 (500-1)	1520-1½ 486 (500-1½)	1700-2 666 (700-2)

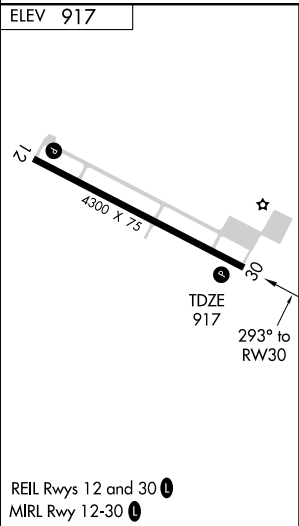
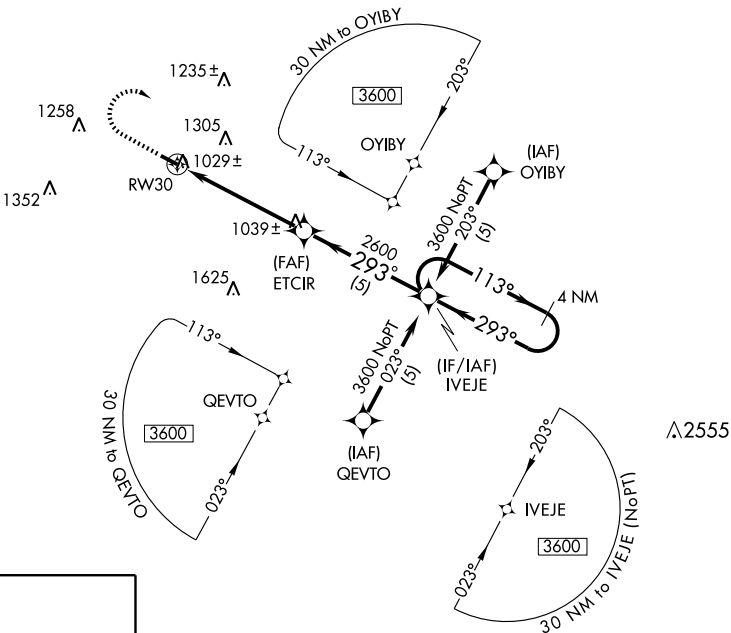


APP CRS <b>293°</b>	Rwy Idg TDZE Apt Elev	<b>4000</b> <b>917</b> <b>917</b>
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RNAV (GPS) RWY 30  
MOORHEAD MUNI (JKJ)

<b>NA</b> GPS or RNP-0.3 required. DME/DME RNP-0.3 NA.	MISSED APPROACH: Climb to 1700 then climbing right turn to 3600 direct IVEJE WP and hold.
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AWOS-3 <b>120.0</b>	FARGO APP CON ★ <b>120.4 377.15</b>	UNICOM <b>123.0 (CTAF) 0</b>
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	1700	3600	IVEJE	
				IVEJE 4 NM Holding Pattern
			ETCIR	IVEJE
			2600	113° 3600
			≤ 3.04° TCH 40	← 293°
			5.1 NM	5 NM
CATEGORY	A	B	C	D
LNAV MDA	1280-1	363 (400-1)	NA	NA
CIRCLING	1340-1 423 (500-1)	1380-1 463 (500-1)	NA	NA



VORTAC FAR <b>116.2</b> Chan <b>109</b>	APP CRS <b>048°</b>	Rwy Idg TDZE Apt Elev	<b>N/A</b> <b>N/A</b> <b>917</b>
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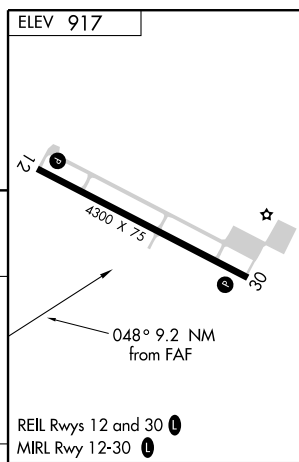
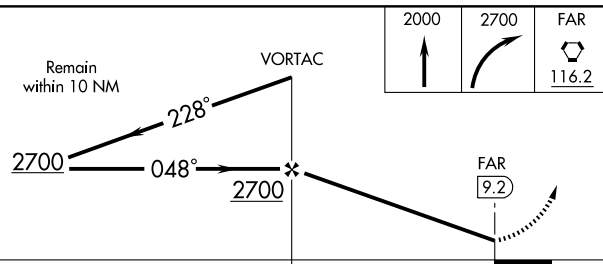
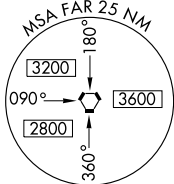
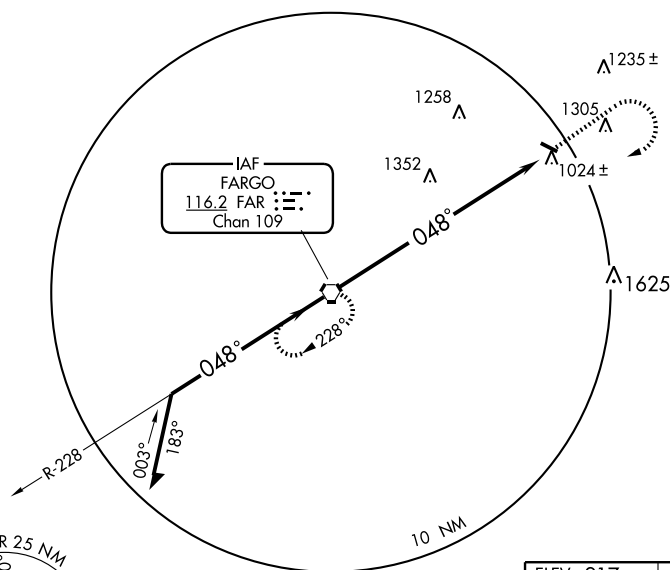
VOR-A  
MOORHEAD MUNI (JKJ)

**MISSED APPROACH:** Climb to 2000, then climbing right turn to 2700 direct FAR VORTAC and hold.

AWOS-3  
120.0

FARGO APP CON ★  
120.4 377.15

UNICOM  
123.0 (CTAF) **L**



CATEGORY	A	B	C	D	FAF to MAP 9.2 NM					
CIRCLING	1580-1	663 (700-1)	NA		Knots	60	90	120	150	180
					Min:Sec	9:12	6:08	4:36	3:41	3:04

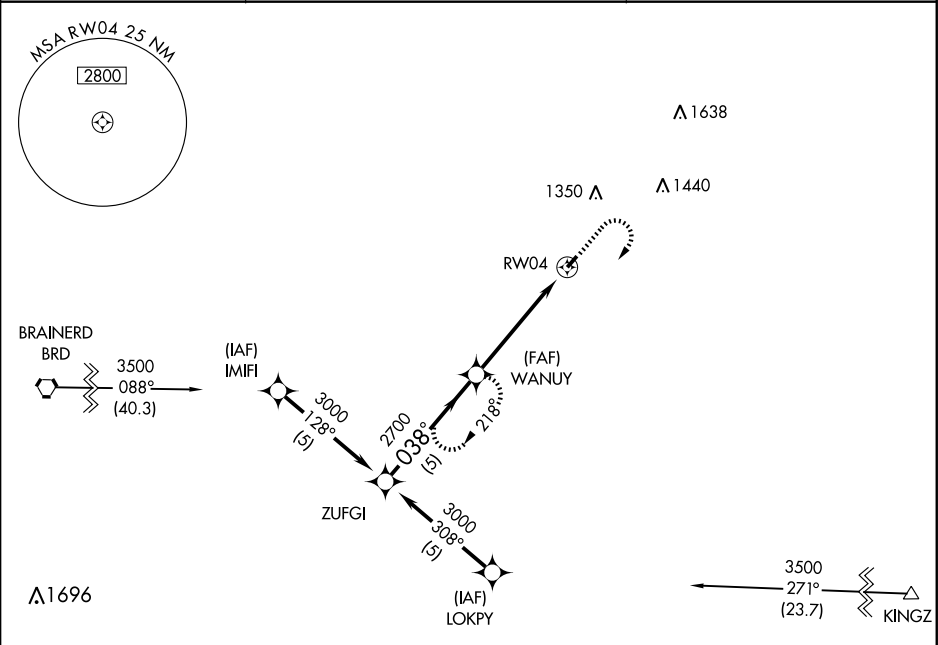
GPS RWY 4

MOOSE LAKE CARLTON COUNTY (MZH)

APP CRS	Rwy Idg	3200
038°	TDZE	1076
	Apt Elev	1076

<div>▼</div> <div>▲ NA</div>	MISSED APPROACH: Climb to 3000 then right turn direct WANUY WP and hold.
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AWOS-3 362	DULUTH APP CON ★ 125.45 255.9	CTAF 122.9 0
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<div><div>ZUFGI</div><div>3000</div><div>Procedure Turn NA</div></div> <div><div>WANUY</div><div>2700</div><div>5 NM</div><div>5 NM</div></div> <div><div>3000</div><div>↑</div><div>3000</div><div>↗</div><div>WANUY</div><div>✳</div></div>					<div>ELEV 1076</div> <div>TDZE 1076</div> <div>3200x75</div> <div>038° to RW04</div> <div>REIL Rwy 4 and 22 0</div> <div>MIRL Rwy 4-22 0</div>
CATEGORY	A	B	C	D	
S-4	1540-1	464 (500-1)	NA		
CIRCLING	1660-1	584 (600-1)	NA		

NDB RWY 4

MOOSE LAKE CARLTON COUNTY (MZH)

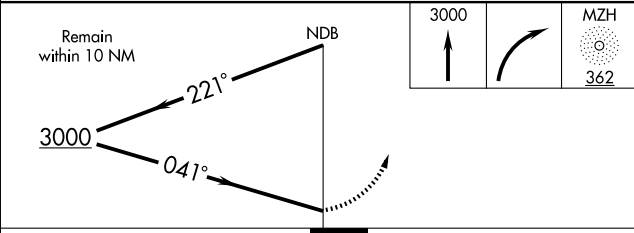
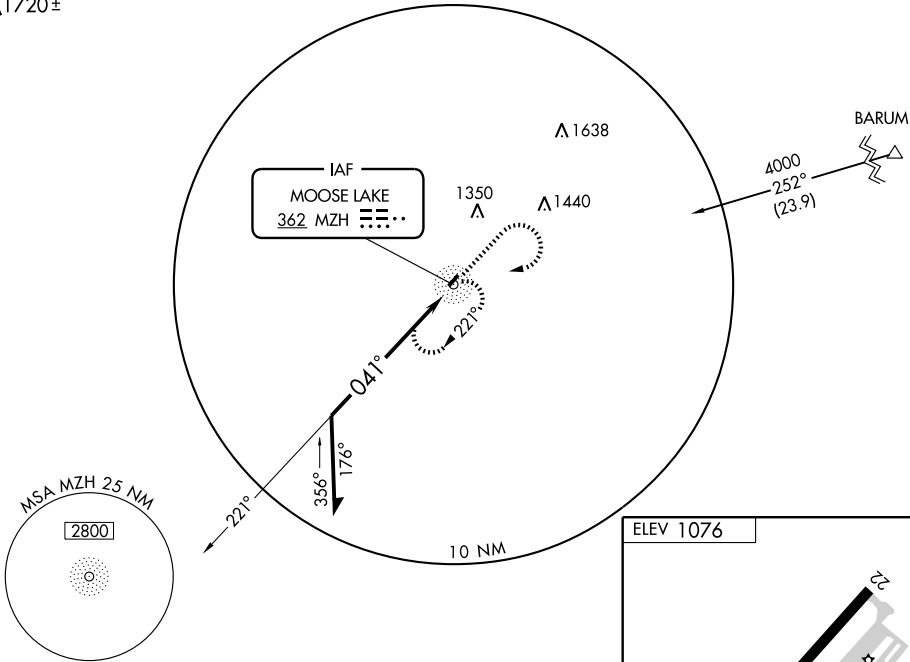
NDB MZH	APP CRS	Rwy Idg	3200
362	041°	TDZE	1076
		Apt Elev	1076

NA

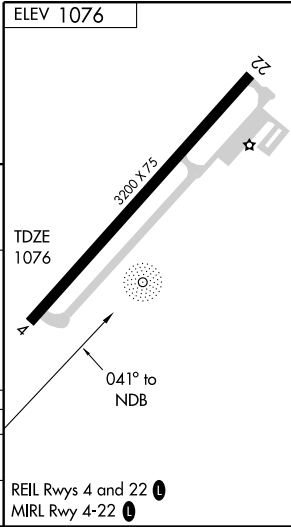
MISSED APPROACH: Climb to 3000, then right turn direct MZH NDB and hold.

AWOS-3 362	DULUTH APP CON ★ 125.45 255.9	CTAF 122.9
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Λ1720±



CATEGORY	A	B	C	D
S-4	1800-1	724 (800-1)	NA	
CIRCLING	1800-1	724 (800-1)	NA	



NA

MISSED APPROACH: Climb to 2800 then right turn direct JMR NDB and hold.

AWOS-3

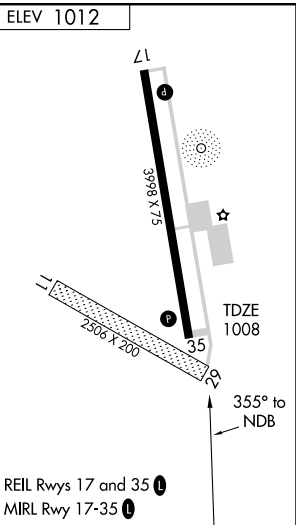
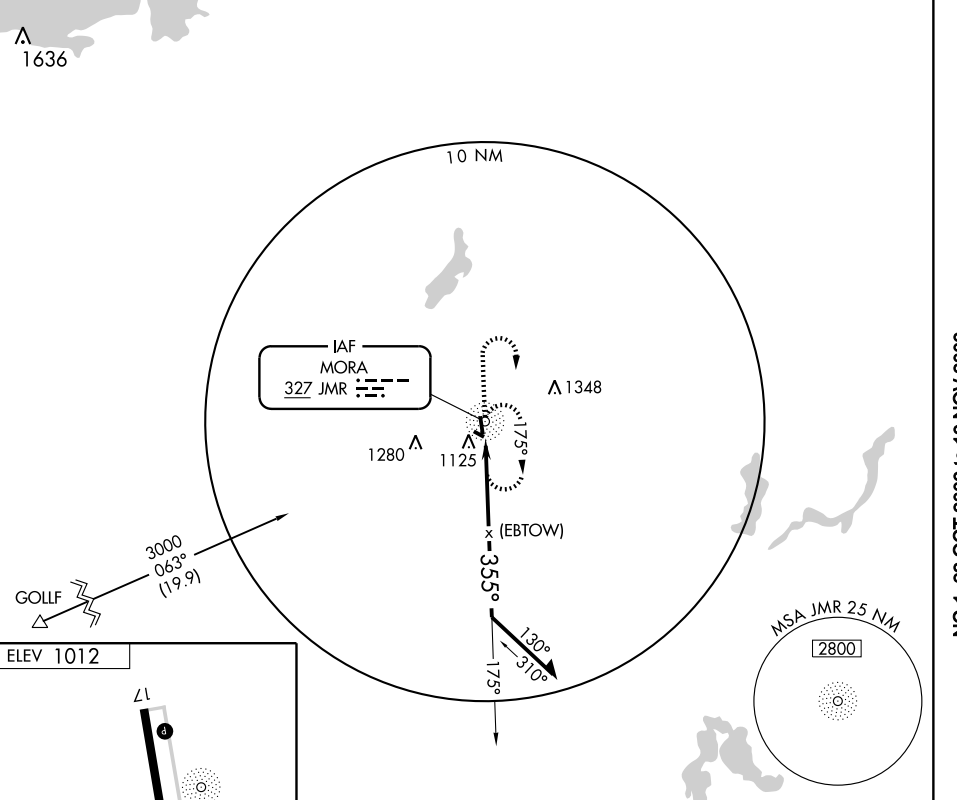
327

MINNEAPOLIS CENTER

121.05 397.9

CTAF

122.8



2800

JMR 327

NDB

175°

355°

2800

Remain within 10 NM

(EBTOW)

4 NM

CATEGORY	A	B	C	D
S-35	1500-1	492 (500-1)	1500-1¼ 492 (500-1¼)	1500-1½ 492 (500-1½)
CIRCLING	1500-1	488 (500-1)	1500-1½ 488 (500-1½)	1580-2 568 (600-2)

APP CRS	Rwy Idg	4000
139°	TDZE	1132
	Apt Elev	1138

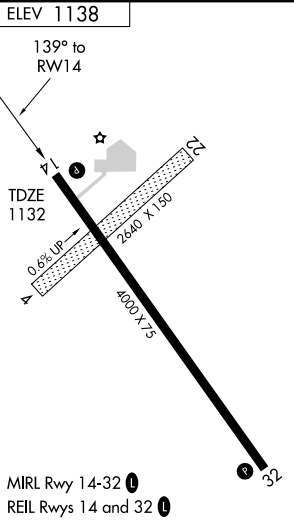
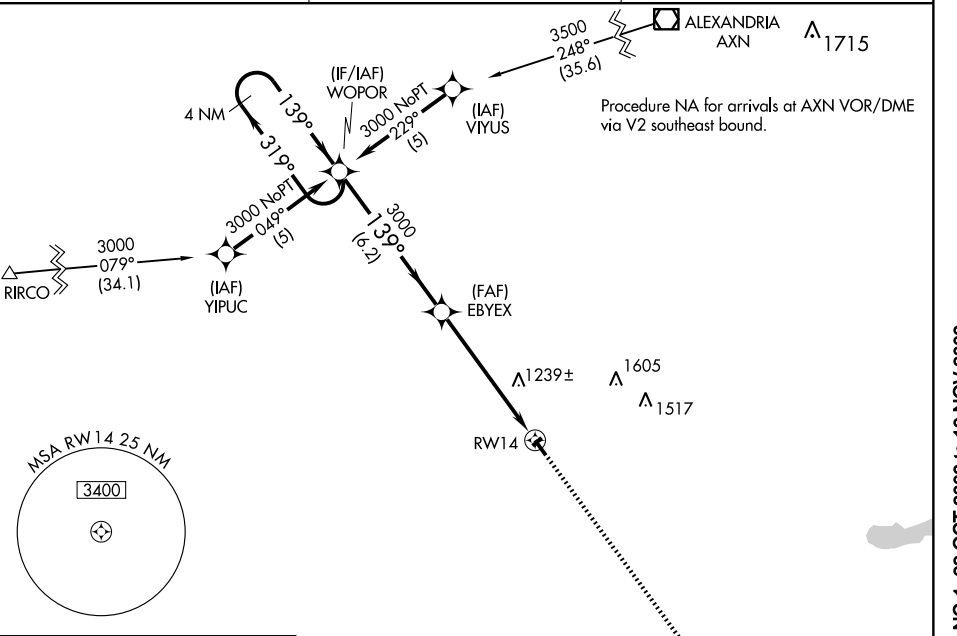
▼

▲

DME/DME RNP-0.3 NA.  
When local altimeter setting not received, use Benson  
altimeter setting and increase all MDA 60 feet.  
VDP NA when using Benson altimeter setting.

MISSED APPROACH: Climb to 3500 direct URTAW and hold.

AWOS-3 109.6	MINNEAPOLIS CENTER 126.1 269.2	UNICOM 122.8 (CTAF) 0
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CATEGORY	A		B		C		D	
	1560-1		428 (500-1)		1560-1¼ 428 (500-1¼)		NA	
CIRCLING	1560-1		1600-1		1600-1½		NA	
	422 (500-1)		462 (500-1)		462 (500-1½)			

NC-1: 22 OCT 2009 to 19 NOV 2009

APP CRS <b>319°</b>	Rwy Idg TDZE Apt Elev	<b>4000</b> <b>1132</b> <b>1138</b>
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## RNAV (GPS) RWY 32

MORRIS MUNI-CHARLIE SCHMIDT FIELD (MOX)

- T** DME/DME RNP-0.3 NA.  
**A** VDP NA when using Benson altimeter setting.  
When local altimeter setting not received, use Benson altimeter setting and increase all MDAs 60 feet.

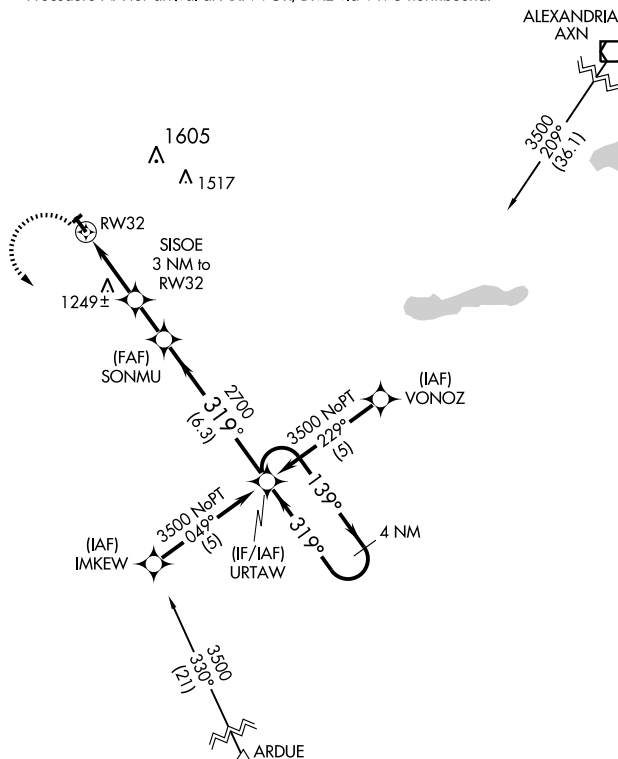
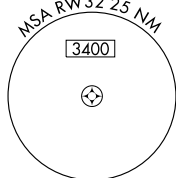
**MISSED APPROACH:** Climbing left turn to 3500 direct URTAW and hold.

AWOS-3  
109.6

MINNEAPOLIS CENTER  
126.1 269.2

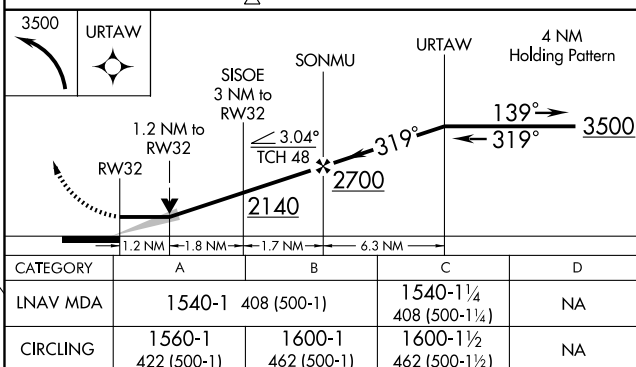
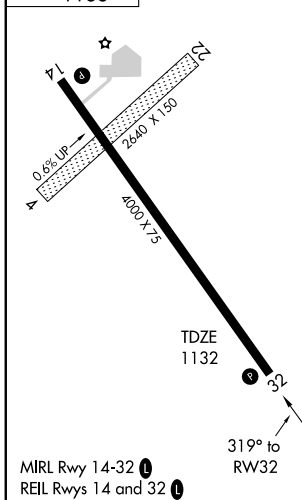
UNICOM  
122.8 (CTAF) **L**

Procedure NA for arrival at AXN VOR/DME via V175 northbound.



NC-1. 22 OCT 2009 to 19 NOV 2009

ELEV 1138



VOR/DME MOX <b>109.6</b> Chn <b>33</b>	APP CRS <b>144°</b>	Rwy Idg <b>4000</b> TDZE <b>1132</b> Apt Elev <b>1138</b>
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VOR RWY 14

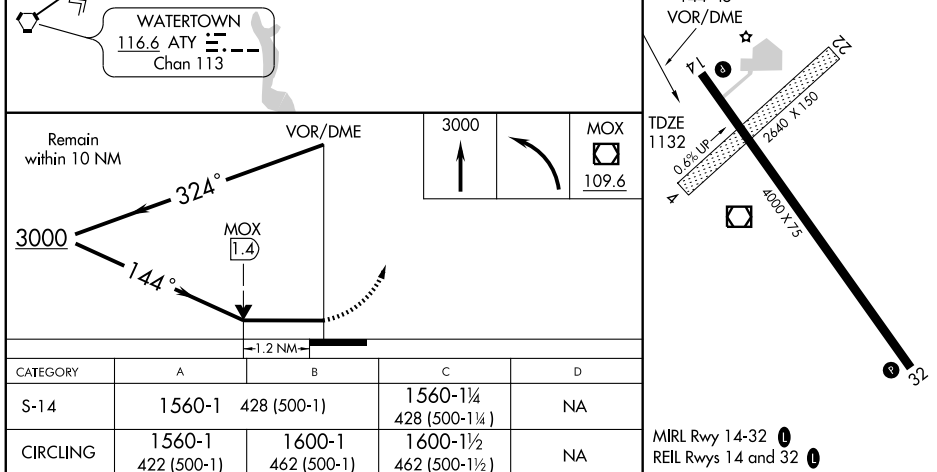
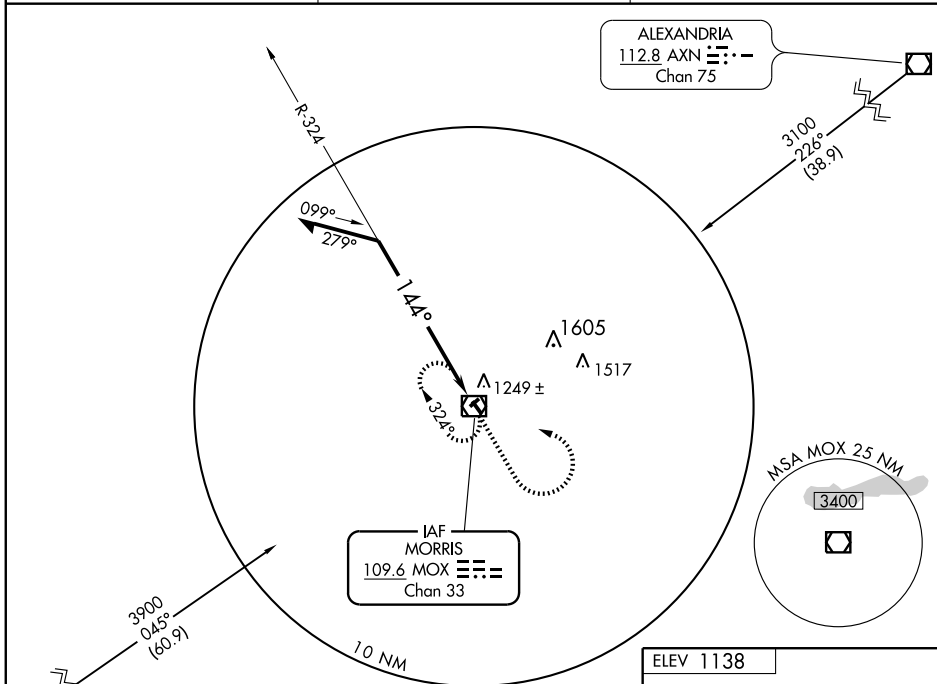
MORRIS MUNI-CHARLIE SCHMIDT FIELD (MOX)

**T** When local altimeter setting not received, use Benson  
**A NA** altimeter setting and increase all MDA 60 feet.  
VDP NA when using Benson altimeter setting.

**MISSED APPROACH:** Climb to 3000 then left turn direct MOX VOR/DME and hold.

AWOS-3  
109.6

MINNEAPOLIS CENTER  
126.1 269.2

UNICOM  
122.8 (CTAF) **L**

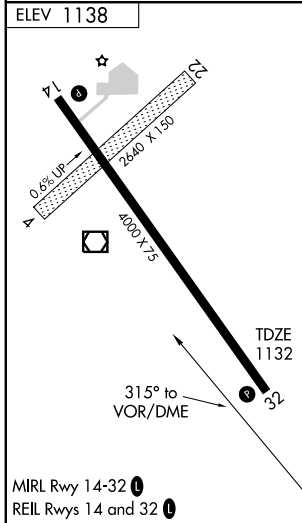
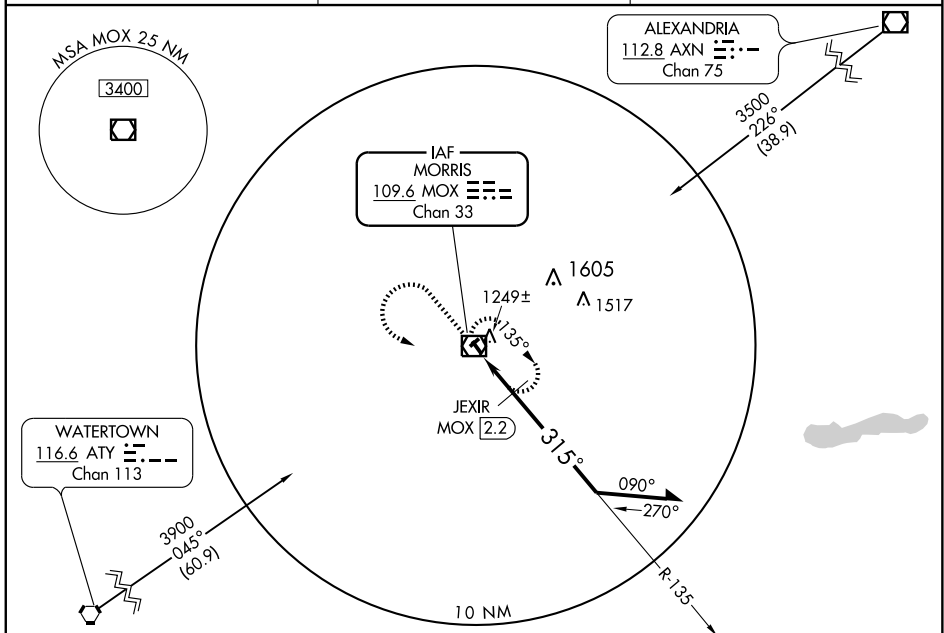
VOR/DME MOX <b>109.6</b> Chan <b>33</b>	APP CRS <b>315°</b>	Rwy Idg TDZE Apt Elev	<b>4000</b> <b>1132</b> <b>1138</b>
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# VOR RWY 32

MORRIS MUNI-CHARLIE SCHMIDT FIELD (MOX)

<p><b>V</b> VDP NA when using Benson altimeter setting.</p> <p><b>A</b> NA When local altimeter setting not received, use Benson altimeter setting and increase all MDAs 60 feet, and Cat. C visibility <math>\frac{1}{4}</math> mile, JEXIR FIX MINIMUMS S-32 Cat. C visibility <math>\frac{1}{4}</math> mile.</p>	<p>MISSED APPROACH: Climb to 3000 then left turn direct MOX VOR/DME and hold.</p>
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AWOS-3 <b>109.6</b>	MINNEAPOLIS CENTER <b>126.1 269.2</b>	UNICOM <b>122.8</b> (CTAF) <b>0</b>
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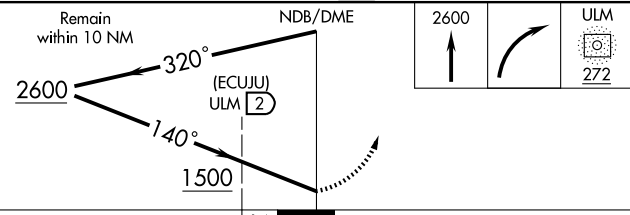
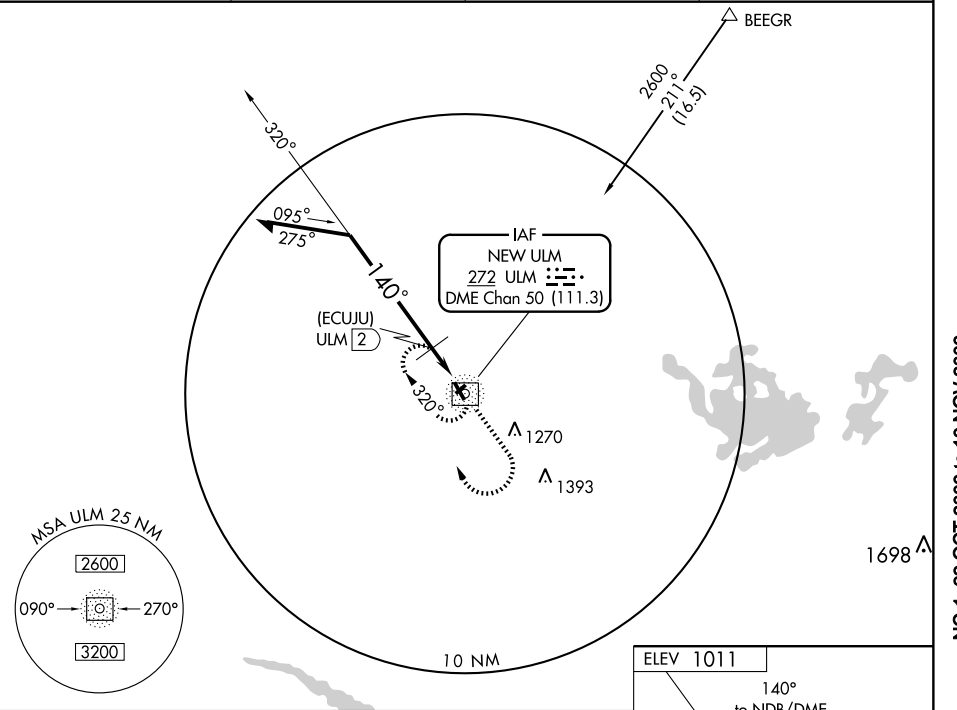
3000 ↑	 MOX 109.6			
*1780 when using Benson altimeter setting.				
CATEGORY	A	B	C	D
S-32	1720-1	588 (600-1)	1720-1½ 588 (600-1½)	NA
CIRCLING	1720-1	582 (600-1)	1720-1½ 582 (600-1½)	NA
JEXIR FIX MINIMUMS				
S-32	1500-1 368 (400-1)			NA
CIRCLING	1560-1 422 (500-1)	1600-1 462 (500-1)	1600-1½ 462 (500-1½)	NA



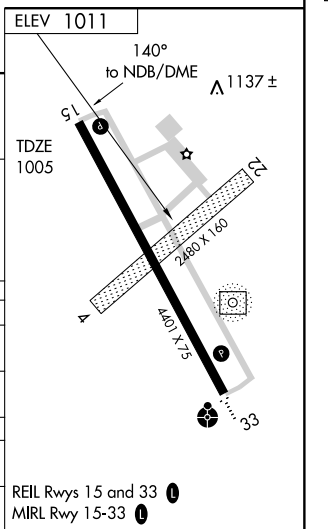
⚠ NA

MISSED APPROACH: Climb to 2600 then right turn direct ULM  
NDB/DME and hold.

AWOS-3 118.325	MINNEAPOLIS CENTER 127.1 290.2	GCO 121.725	UNICOM 122.8 (CTAF)
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CATEGORY	A	B	C	D
S-15	1500-1	495 (500-1)	1500-1¼ 495 (500-1¼)	1500-1½ 495 (500-1½)
CIRCLING	1500-1	489 (500-1)	1500-1½ 489 (500-1½)	1740-2¼ 729 (800-2¼)
DME MINIMUMS				
S-15	1440-1	435 (500-1)	1440-1¼ 435 (500-1¼)	1440-1½ 435 (500-1½)
CIRCLING	1440-1 429 (500-1)	1480-1 469 (500-1)	1480-1½ 469 (500-1½)	1740-2¼ 729 (800-2¼)



REIL Rwy 15 and 33   
MIRL Rwy 15-33

NDB/DME ULM <b><u>272</u></b> Chan <b>50 (111.3)</b>	APP CRS <b>354°</b>	Rwy Idg <b>4401</b> TDZE <b>1011</b> Apt Elev <b>1011</b>
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NDB or GPS RWY 33

NEW ULM MUNI (ULM)

Inoperative table does not apply to S-33 Cats C and D.

ODALS



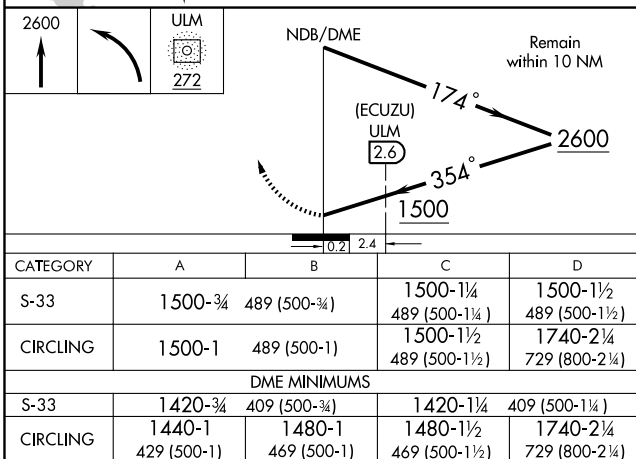
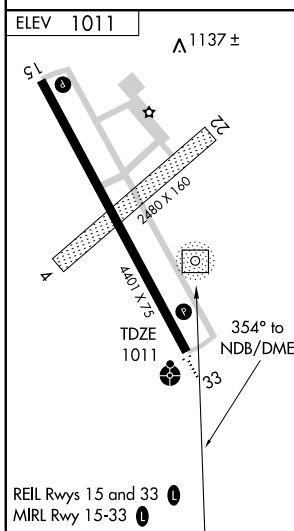
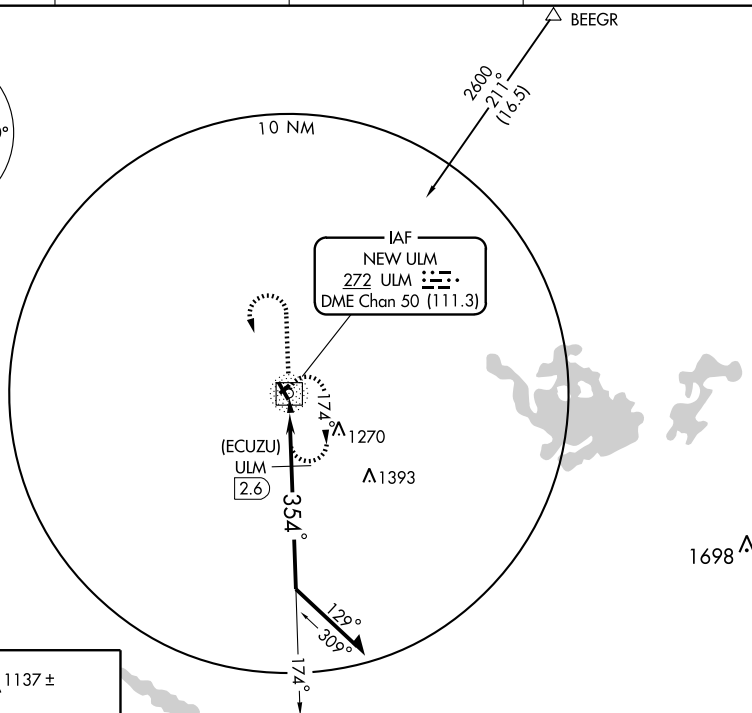
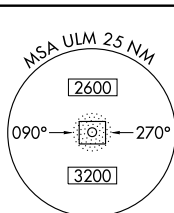

**MISSED APPROACH:** Climb to 2600 then left turn direct ULM NDB/DME and hold.

A NA

AWOS-3  
118.325

MINNEAPOLIS CENTER  
127.1 290.2

GCO  
121.725

UNICOM  
122.8 (CTAF) 

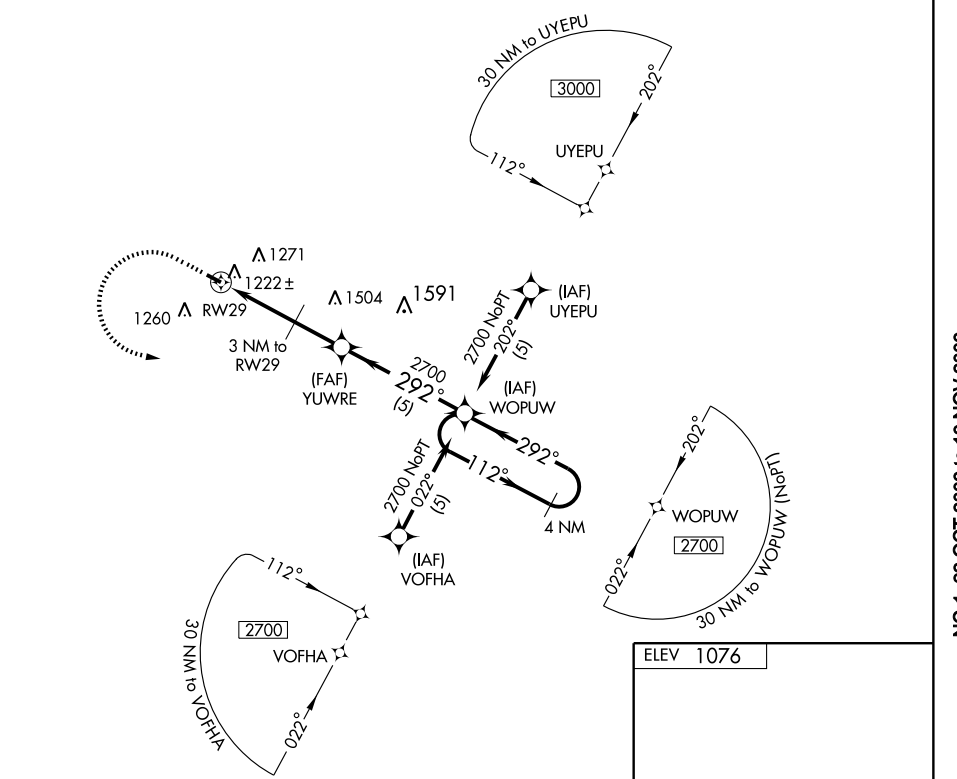
▼

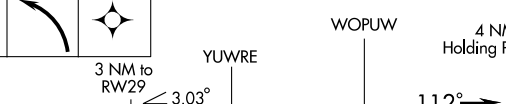
▲NA

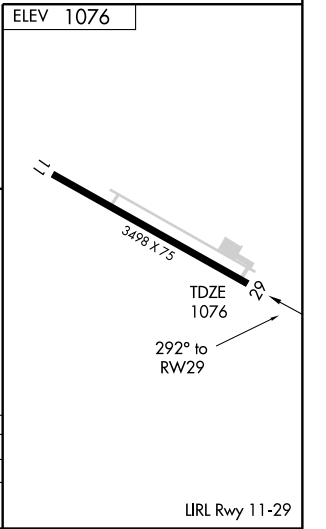
Use Redwood Falls altimeter setting.  
GPS or RNP- 0.3 required. DME/DME RNP- 0.3 NA.

MISSED APPROACH: Climb to 2000 then climbing left turn to 2700 direct WOPUW WP and hold.

AWOS-3 119.275	MINNEAPOLIS CENTER 127.1 290.2	UNICOM 122.8 (CTAF)
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2000	2700	WOPUW		
↑	↷	✦		
				
CATEGORY	A	B	C	D
LNNAV MDA	1580-1	504 (600-1)	1580-1½	504 (600-1½)
CIRCLING	1620-1	544 (600-1)	1680-1¾ 604 (700-1¾)	1680-2 604 (700-2)



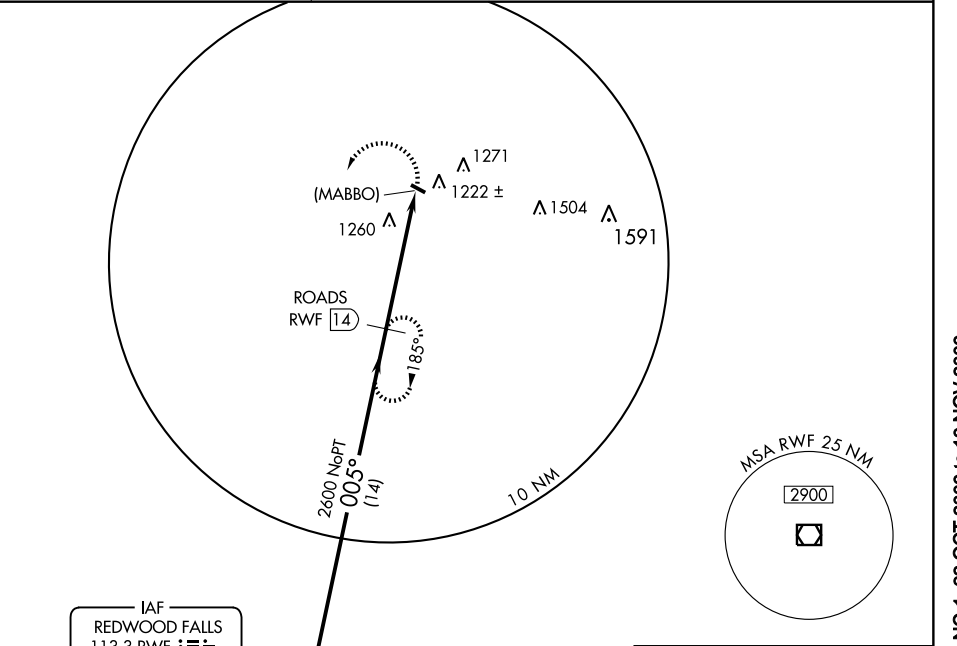
▼

NA

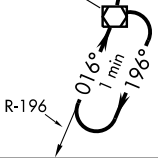
Use Redwood Falls, MN altimeter setting.

MISSED APPROACH: Climbing left turn to 2600 via RWF R-005 to ROADS 14 DME and hold.

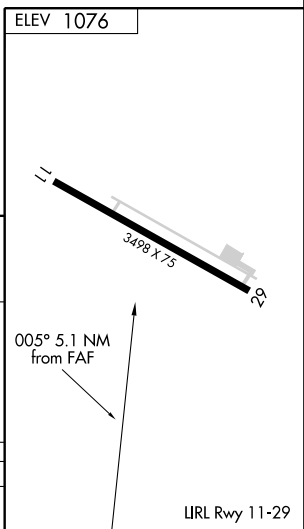
AWOS-3 119.275	MINNEAPOLIS CENTER 127.1 290.2	UNICOM 122.8 (CTAF)
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IAF  
REDWOOD FALLS  
113.3 RWF  
Chan 80



NoPT for arrivals on  
RWF vor/dme airway  
radials 103 CW 283



One Minute Holding Pattern				
<div><div>2600</div><div>← 196°</div><div>005° →</div><div>016° →</div><div>2600</div></div>				
<div><div>14 NM</div><div>5.1 NM</div></div>				
CATEGORY	A	B	C	D
CIRCLING	1620-1	544 (600-1)	1680-1¾ 604 (700-1¾)	1680-2 604 (700-2)

# GPS RWY 13

ORR RGNL(ORB)

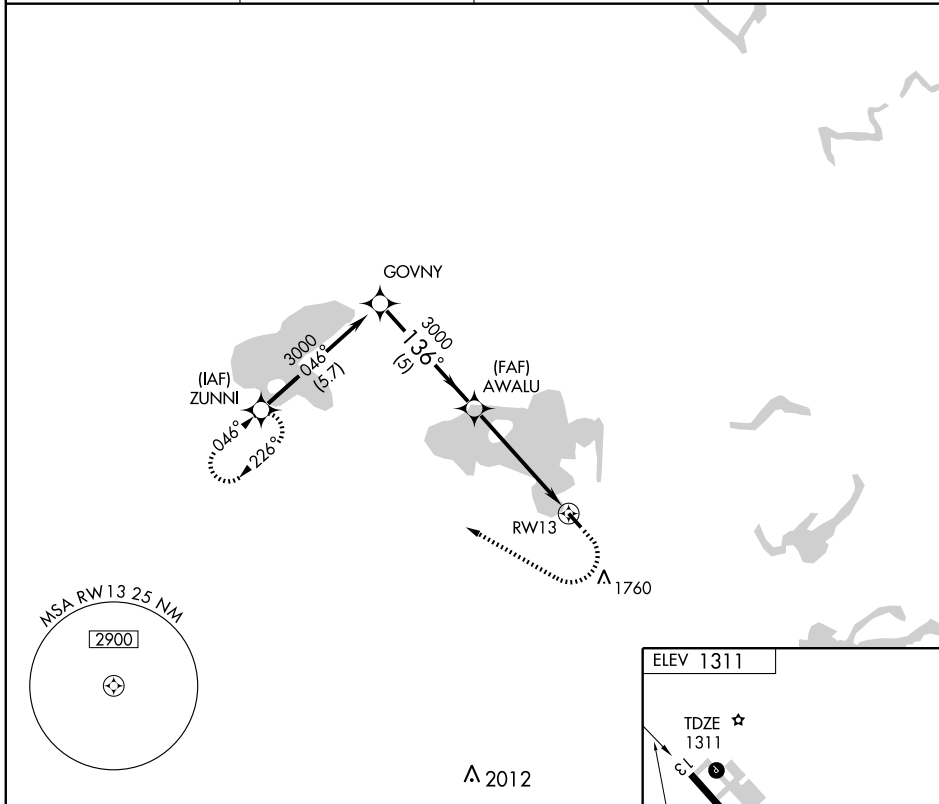
APP CRS	Rwy Idg	<b>4001</b>
<b>136°</b>	TDZE	<b>1311</b>
	Apt Elev	<b>1311</b>



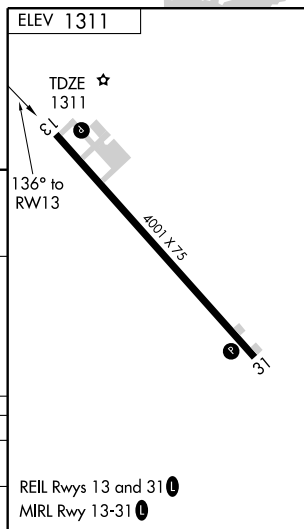
NA

MISSED APPROACH: Climb to 2500 then climbing right turn to 3000 direct ZUNNI WP and hold.

AWOS-3 <b>118.325</b>	MINNEAPOLIS CENTER <b>120.9 377.1</b>	GCO <b>121.725</b>	UNICOM <b>122.8</b> (CTAF) <b>0</b>
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	GOVNY	AWALU	2500	3000	ZUNNI
	3000	136°	3000		
Procedure Turn NA					
	5 NM	3.6 NM	1.4 NM		
CATEGORY	A	B	C	D	
S-13	1760-1	449 (500-1)	1760-1½ 449 (500-1½)	1760-1½ 449 (500-1½)	
CIRCLING	1880-1 569 (600-1)	1900-1 589 (600-1)	1900-1½ 589 (600-1½)	2120-2½ 809 (900-2½)	





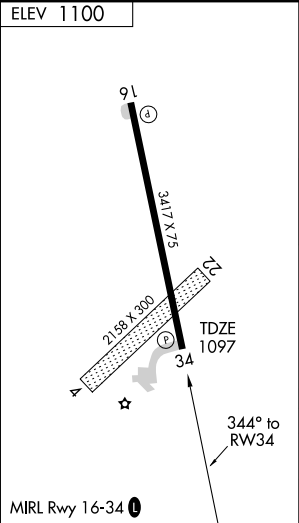
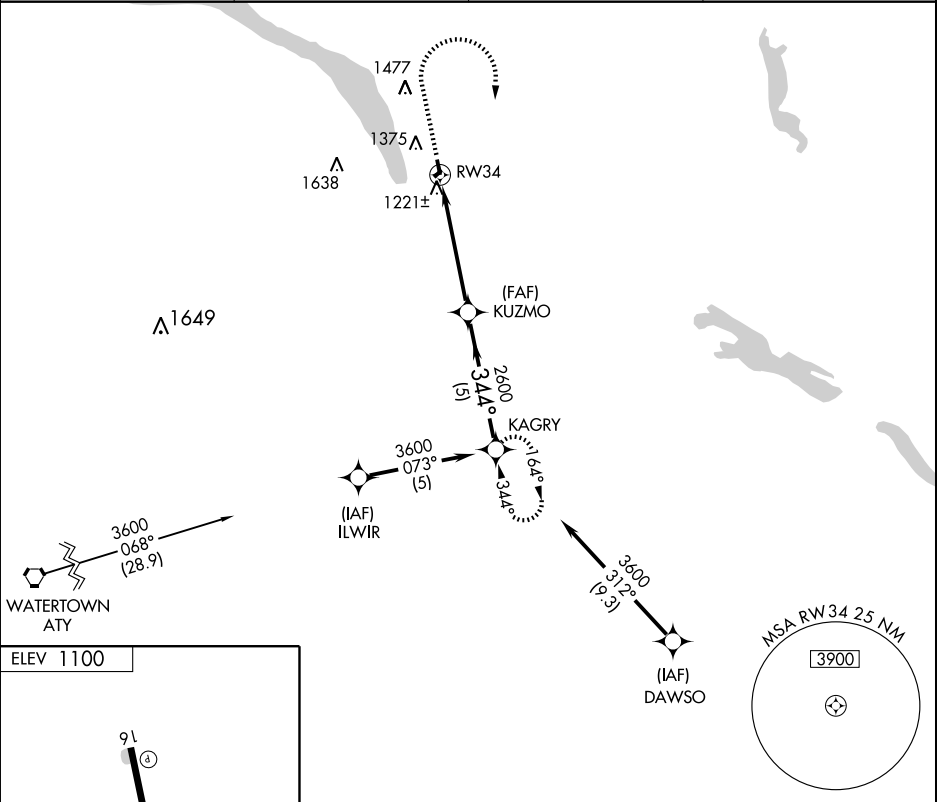
APP CRS	Rwy Idg	3417
344°	TDZE	1097
	Apt Elev	1100









GPS RWY 34

ORTONVILLE MUNI-MARTINSON FIELD (VVV)

 NA	MISSED APPROACH: Climb to 3600 then right turn direct KAGRY WP and hold.
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AWOS-3 332.0	MINNEAPOLIS CENTER 128.5 306.2	GCO 121.725	UNICOM 122.8 (CTAF) 
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<div><div><div>3600</div><div></div></div><div><div></div><div></div><div>KAGRY</div></div></div>				
<div><div><div>RW34</div><div></div></div><div><div>KUZMO</div><div></div></div><div><div><div>344°</div><div></div><div></div></div><div><div>2600</div><div></div></div><div><div>3600</div><div>Procedure Turn NA</div></div></div><div><div>5 NM</div><div>5 NM</div></div></div>				
CATEGORY	A	B	C	D
S-34	1 540-1	443 (500-1)	1 540-1¼ 443 (500-1¼)	NA
CIRCLING	1 740-1	640 (700-1)	1 740-1¾ 640 (700-1¾)	NA





▼

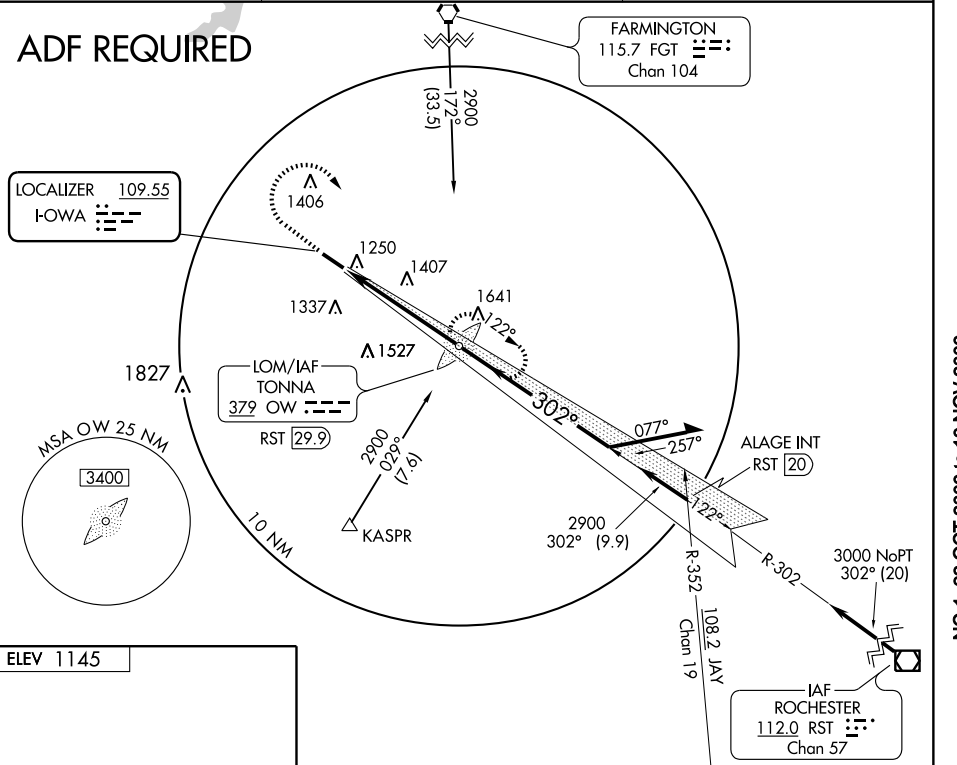
▲ NA

MALSR

MISSED APPROACH

Climb to 2000 then climbing right turn to 2900 direct TONNA LOM and hold.

AWOS-3 128.325	ROCHESTER APP CON ★ 119.8 251.125	UNICOM 122.7 (CTAF) ①
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ELEV 1145

REIL Rwy 12 ①

REIL Rwy 30

HIRL Rwy 12-30 ①

FAF to MAP 5 NM

Knots	60	90	120	150	180
Min:Sec	5:00	3:20	2:30	2:00	1:40

2000

2900

OW 379

LOM RST 29.9

2806

122°

302°

2900

2900

5 NM

Remain within 10 NM

GS 3.00° TCH 52

CATEGORY	A	B	C	D
S-ILS 30	1345-½		200 (200-½)	
S-LOC 30	1680-½	535 (600-½)	1680-1 535 (600-1)	1680-1¼ 535 (600-1¼)
CIRCLING	1680-1	535 (600-1)	1720-1½ 575 (600-1½)	1720-2 575 (600-2)

NC-1: 22 OCT 2009 to 19 NOV 2009

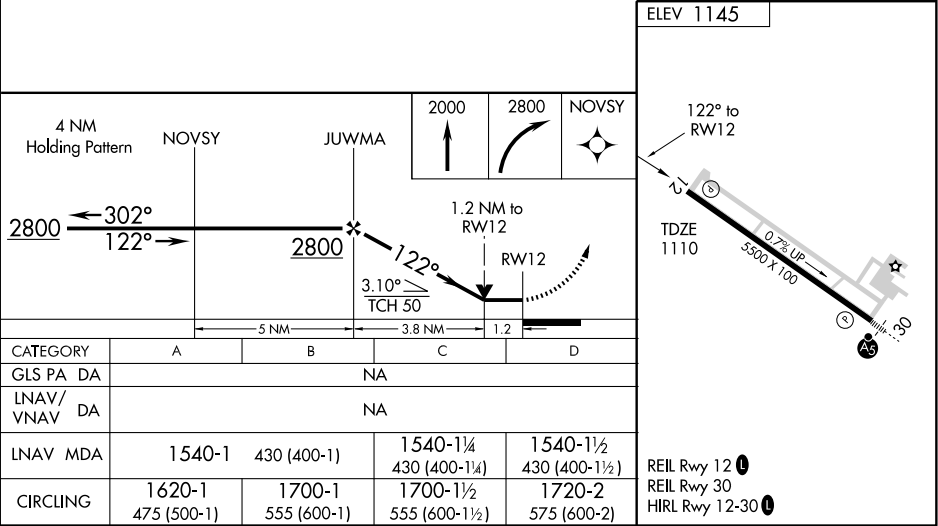
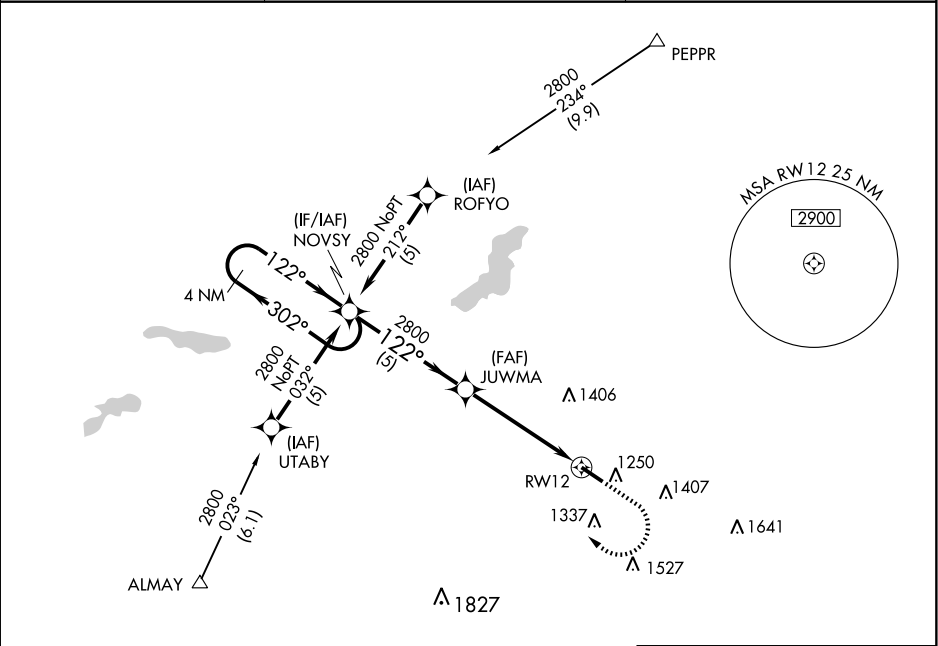
APP CRS	Rwy Idg	5500
122°	TDZE	1110
	Apt Elev	1145

# RNAV (GPS) RWY 12

OWATONNA DEGNER RGNL (OWA)

<b>NA</b>	GPS or RNP-0.3 required. DME/DME RNP-0.3 NA.	MISSED APPROACH: Climb to 2000 then climbing right turn to 2800 direct NOVSY WP and hold.
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AWOS-3 128.325	ROCHESTER APP CON ★ 119.8 251.125	UNICOM 122.7 (CTAF)
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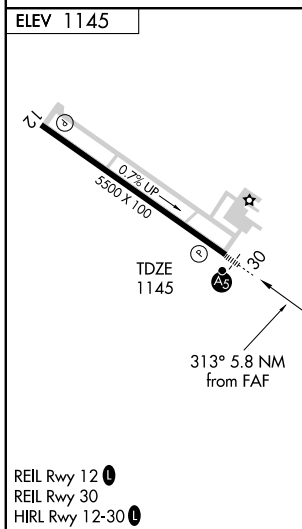
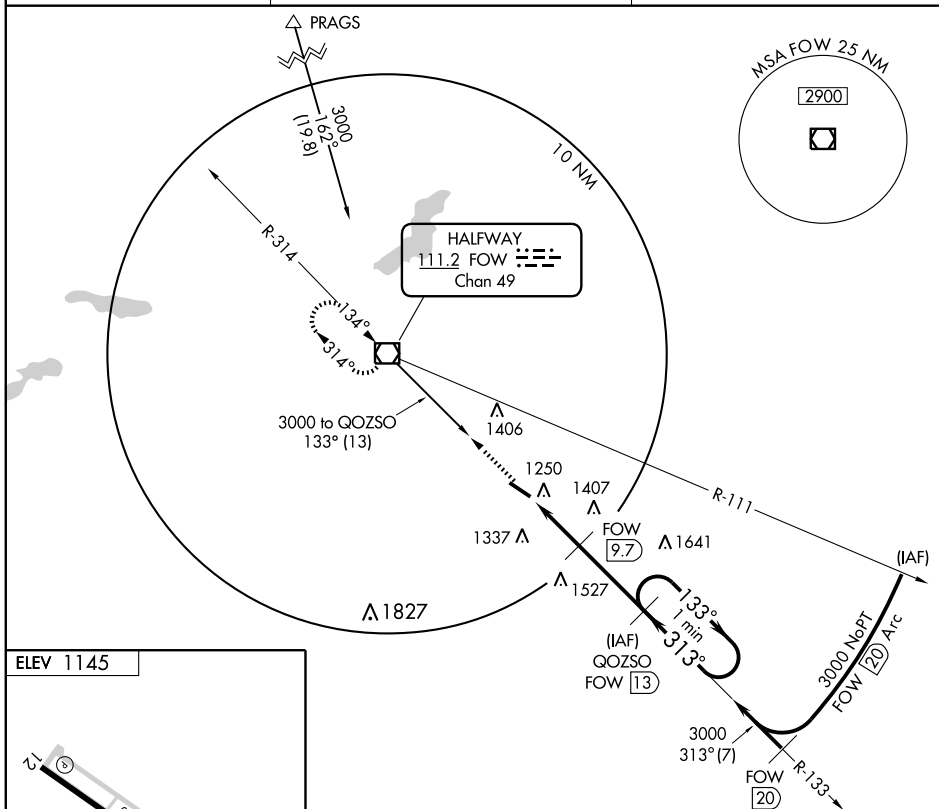


VOR/DME FOW <b>111.2</b> Chan <b>49</b>	APP CRS <b>313°</b>	Rwy Idg TDZE Apt Elev <b>5500</b> <b>1145</b> <b>1145</b>
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# VOR/DME RWY 30

OWATONNA DEGNER RGNL (OWA)

  NA	MALSR 	MISSED APPROACH: Climb to 3000 direct FOW VOR/DME and hold.
AWOS-3 <b>128.325</b>	ROCHESTER APP CON ★ <b>119.8 251.125</b>	UNICOM <b>122.7</b> (CTAF) 



3000

↑

FOW

111.2

FOW

7.2

≤ 2.93°

TCH 50

FOW

9.7

313°

GOZSO

FOW

13

One Minute Holding Pattern

133° →

← 313°

3000

2.5 NM

3.3 NM

CATEGORY	A	B	C	D
S-30	1700-1	555 (600-1)	1700-1½ 555 (600-1½)	1700-1¾ 555 (600-1¾)
CIRCLING	1700-1	555 (600-1)	1700-1½ 555 (600-1½)	1720-2 575 (600-2)



LOC I-PKD	APP CRS	Rwy Idg	5498
110.9	311°	TDZE	1443
		Apt Elev	1443

ILS RWY 31

PARK RAPIDS MUNI-KONSHOK FIELD (PKD)

NA	MALSR	MISSED APPROACH: Climb to 3200 then left turn direct Spida LOM and hold.
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ASOS  
110.6

PRINCETON RADIO  
122.1R

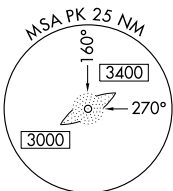
UNICOM  
123.0 (CTAF)

LOCALIZER 110.9  
I-PKD

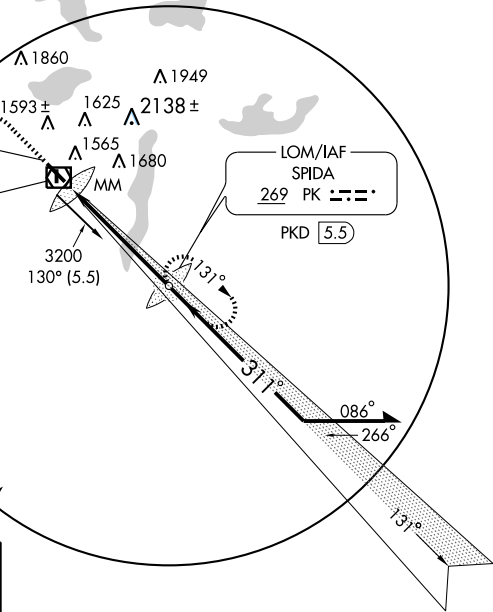
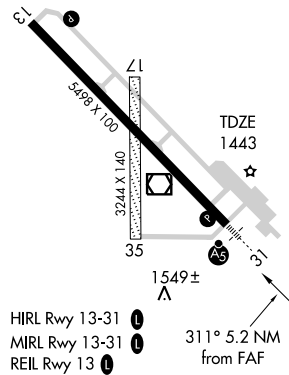
PARK RAPIDS  
110.6 PKD  
Chan 43

LOM/IAF  
SPIDA  
269 PK  
PKD 5.5

ADF REQUIRED



ELEV 1443






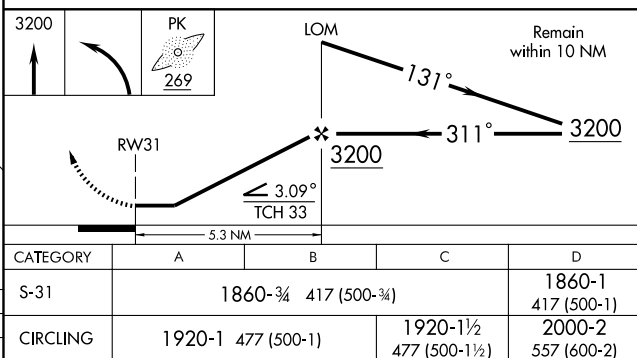
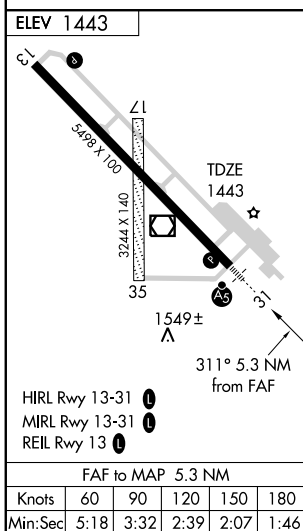
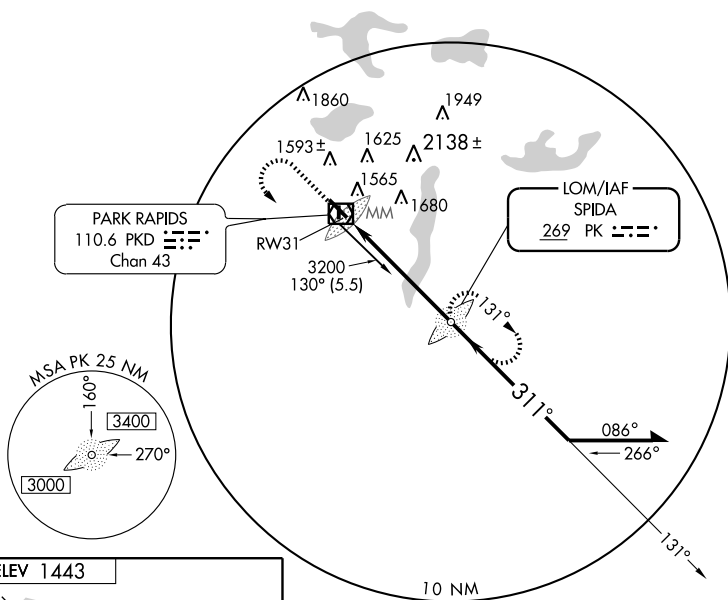
	3200	PK 269	LOM PKD 5.5	Remain within 10 NM
		PKD 0.3	3195	3137
		MM	311°	3200
		0.4	4.8 NM	GS 3.00° TCH 53
CATEGORY	A	B	C	D
S-ILS 31	1643-½ 200 (200-½)			
S-LOC 31	1800-½ 357 (400-½)			1800-¾ 357 (400-¾)
CIRCLING	1920-1 477 (500-1)		1920-1½ 477 (500-1½)	2000-2 557 (600-2)

LOM PK <b><u>269</u></b>	APP CRS <b>311°</b>	Rwy Idg <b>5498</b> TDZE <b>1443</b> Apt Elev <b>1443</b>
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NDB or GPS RWY 31

### PARK RAPIDS MUNI-KONSHOK FIELD (PKD)

 NA		MISSED APPROACH: Climb to 3200, then left turn direct PK LOM and hold.
ASOS <b>110.6</b>	PRINCETON RADIO <b>122.1R</b>	UNICOM <b>123.0</b> (CTAF) 



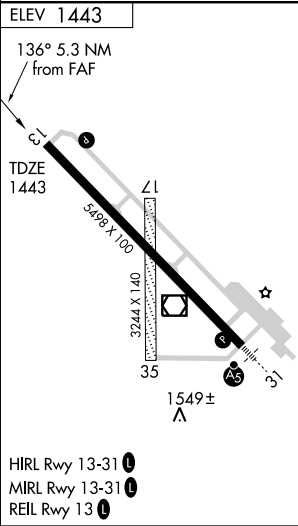
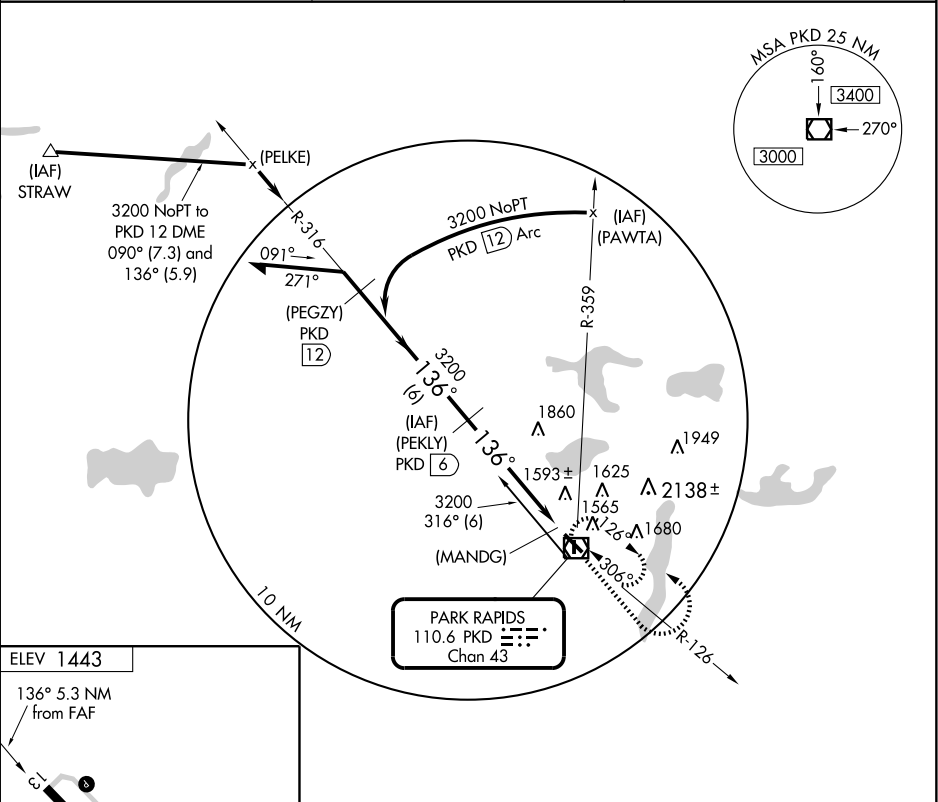
VOR/DME PKD <b>110.6</b> Chan <b>43</b>	APP CRS <b>136°</b>	Rwy Idg TDZE <b>1443</b> Apt Elev <b>1443</b>
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# VOR/DME or GPS RWY 13

PARK RAPIDS MUNI-KONSHOK FIELD (PKD)

MISSED APPROACH: Climb to 3200 via heading 130° then left turn direct PKD VOR/DME and hold.

ASOS <b>110.6</b>	PRINCETON RADIO <b>122.1R</b>	UNICOM <b>123.0 (CTAF) 0</b>
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Remain within 10 NM			
CATEGORY	A	B	C
S-13	1860-1	417 (500-1)	1860-1¼ 417 (500-1¼)
CIRCLING	1920-1	477 (500-1)	1920-1½ 477 (500-1½)
			2000-2 557 (600-2)

VOR/DME PKD <b>110.6</b> Chan <b>43</b>	APP CRS <b>306°</b>	Rwy Idg TDZE Apt Elev	<b>5498</b> <b>1443</b> <b>1443</b>
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VOR RWY 31

PARK RAPIDS MUNI-KONSHOK FIELD (PKD)

For inoperative MALSR, increase Cat. D S-31. DME  
minimums visibility ¼ mile.

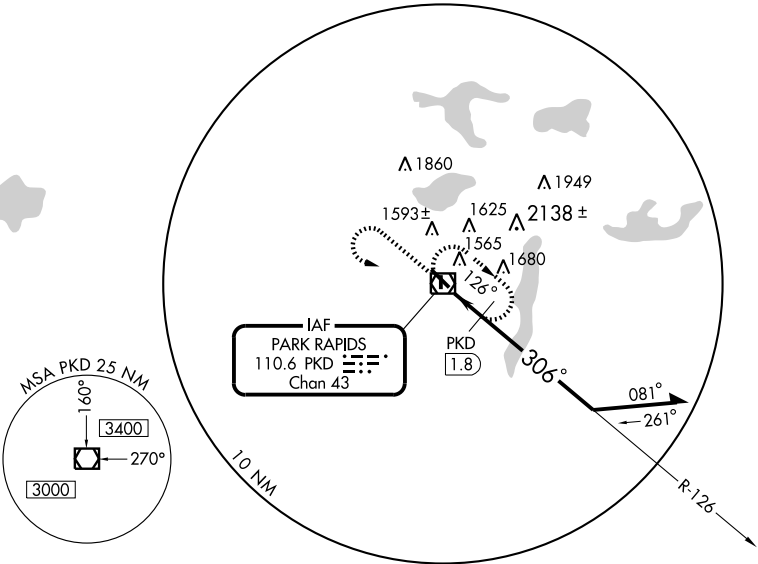


MISSED APPROACH: Climb to 3200, then left turn direct  
PKD VOR/DME and hold.

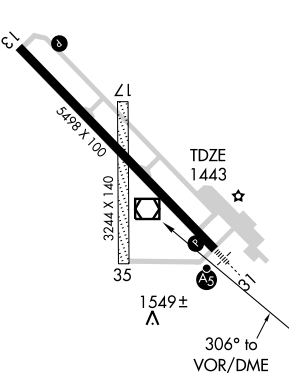
ASOS  
**110.6**

PRINCETON RADIO  
**122.1R**

UNICOM  
**123.0** (CTAF) **0**



ELEV **1443**



HIRL Rwy 13-31 **0**  
MIRL Rwy 13-31 **0**  
REIL Rwy 13 **0**

3200

↑

↷

PKD

110.6

VOR/DME

126°

306°

PKD

1.8

1880

3100

1.6 NM

Remain within 10 NM

CATEGORY	A	B	C	D
S-31	1880-½ 437 (500-½)		1880-¾ 437 (500-¾)	1800-1 437 (500-1)
CIRCLING	1920-1 477 (500-1)		1920-1½ 477 (500-1½)	2000-2 557 (600-2)

DME MINIMUMS

S-31	1820-½ 377 (400-½)		1820-1 377 (400-1)
CIRCLING	1920-1 477 (500-1)	1920-1½ 477 (500-1½)	2000-2 557 (600-2)



GPS RWY 30  
PERHAM MUNI (16D)

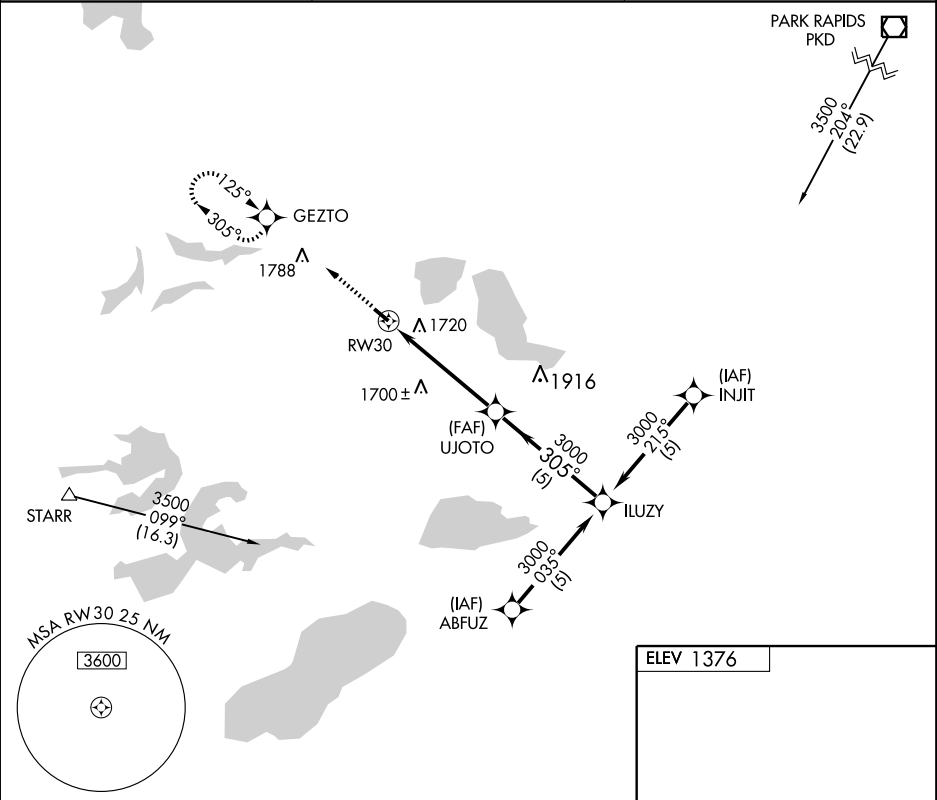
APP CRS	Rwy Idg	4100
305°	TDZE	1373
	Apt Elev	1376

NA

Use Detroit Lakes altimeter setting.

MISSED APPROACH: Climb to 3100 direct GEZTO WP and hold.

MINNEAPOLIS CENTER 126.1 269.2	GCO 121.725	CTAF 122.9 0
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3100 ↑

GEZTO

RW30

UJOTO

ILUZY

3000

305°

3000

Procedure Turn NA

5 NM

5 NM

CATEGORY	A	B	C	D
S-30	2080-1	707 (800-1)	NA	
CIRCLING	2120-1 744 (800-1)	2120-1¼ 744 (800-1¼)	NA	

ELEV 1376

4100 X 75

TDZE 1373

305° to RW30

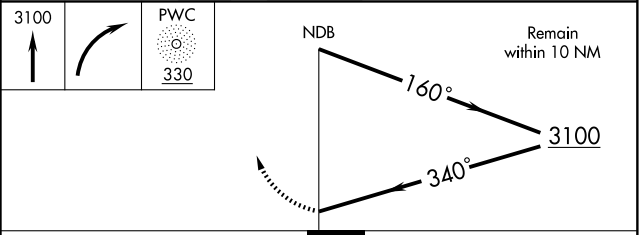
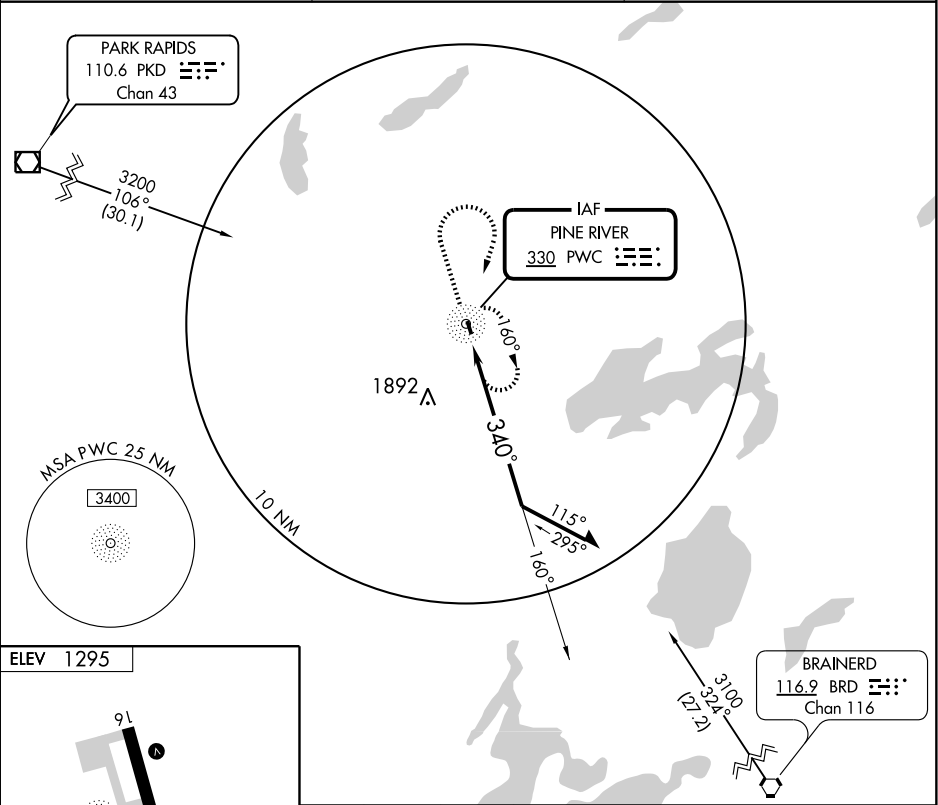
MRL Rwy 12-30 0  
REIL Rwy 30 0

NDB	PWC	APP CRS	Rwy Idg	3000
330		340°	TDZE	1295
			Apt Elev	1295

NDB RWY 34  
PINE RIVER RGNL (PWC)

NA	MISSED APPROACH: Climb to 3100 then right turn direct PWC NDB and hold.
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ASOS-3 118.525	MINNEAPOLIS CENTER 118.05 239.0	CTAF 122.9
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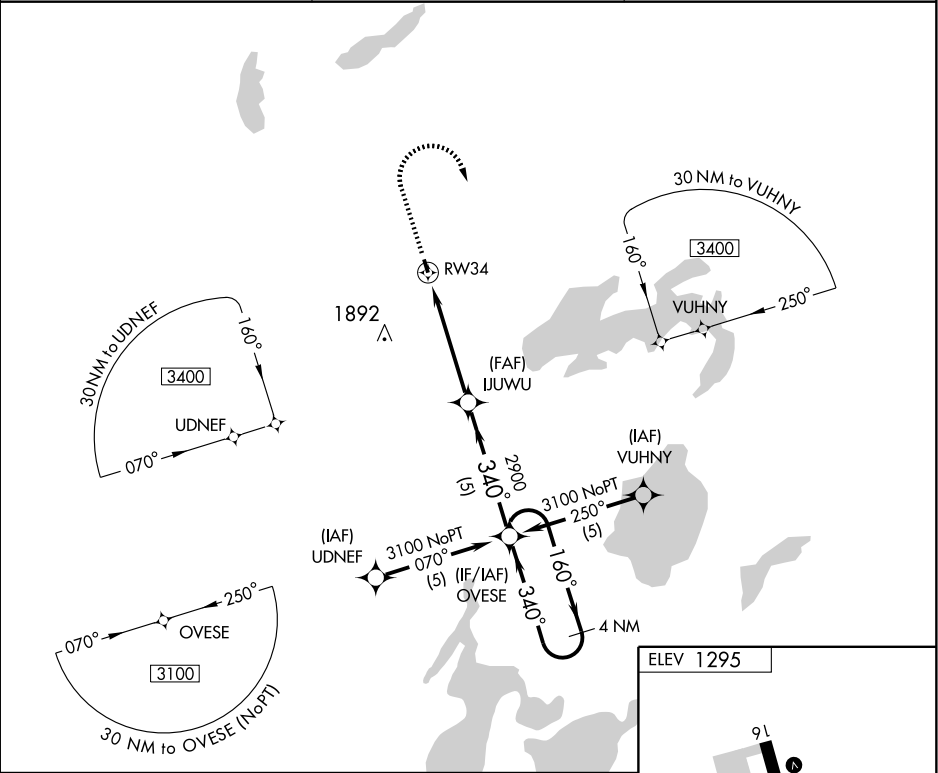
CATEGORY	A	B	C	D
S-34	2060-1 765 (800-1)	2060-1¼ 765 (800-1¼)	2060-2¼ 765 (800-2¼)	NA
CIRCLING	2060-1 765 (800-1)	2060-1¼ 765 (800-1¼)	2060-2¼ 765 (800-2¼)	NA

NA

GPS or RNP- 0.3 required. DME/DME RNP- 0.3 NA.

MISSED APPROACH: Climb to 2100 then climbing right turn to 3100 direct OVESE WP and hold.

ASOS-3 118.525	MINNEAPOLIS CENTER 118.05 239.0	CTAF 122.9 0
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2100

3100

OVESE

1.2 NM to RW34

1.2

3.7 NM

5 NM

3.04°

TCH 38

2900

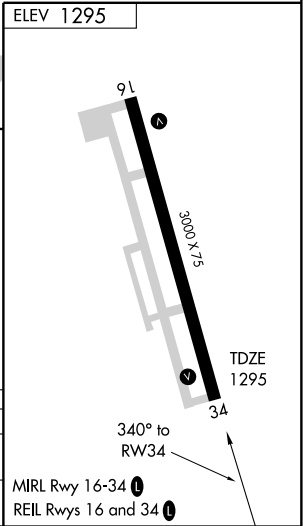
340°

160°

3100

4 NM Holding Pattern

CATEGORY	A	B	C	D
LNAV MDA	1700-1	405 (500-1)	1700-1¼ 405 (500-1¼)	NA
CIRCLING	1760-1	465 (500-1)	1760-1½ 465 (500-1½)	NA



▲ NA


Use Roseau, MN altimeter setting.

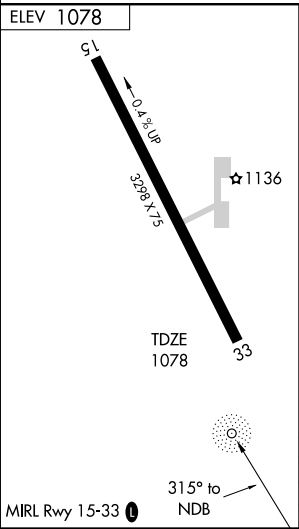
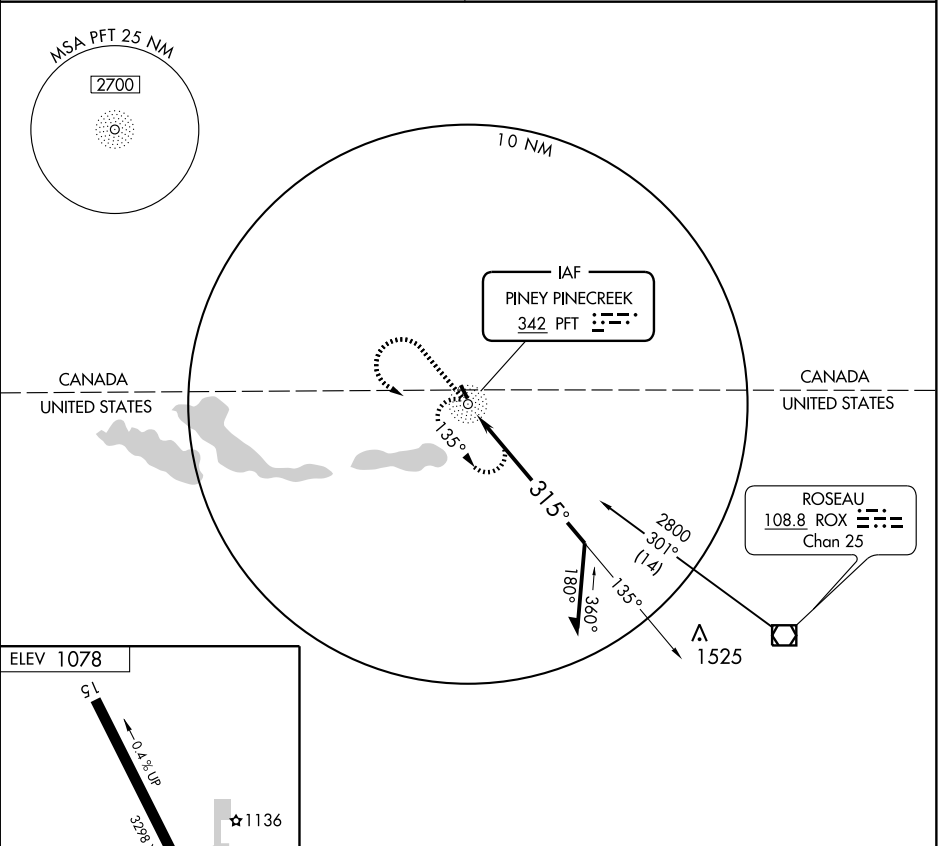
MINNEAPOLIS CENTER

134.75 251.1


MISSED APPROACH: Climb to 2800 then left turn direct PFT NDB and hold.

UNICOM

122.8 (CTAF) 



2800



PFT

342

NDB

135°

315°

2800

Remain within 10 NM

CATEGORY	A	B	C	D
S-33	1600-1	522 (600-1)	NA	NA
CIRCLING	1600-1	522 (600-1)	NA	NA

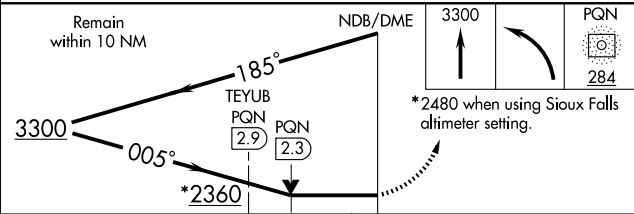
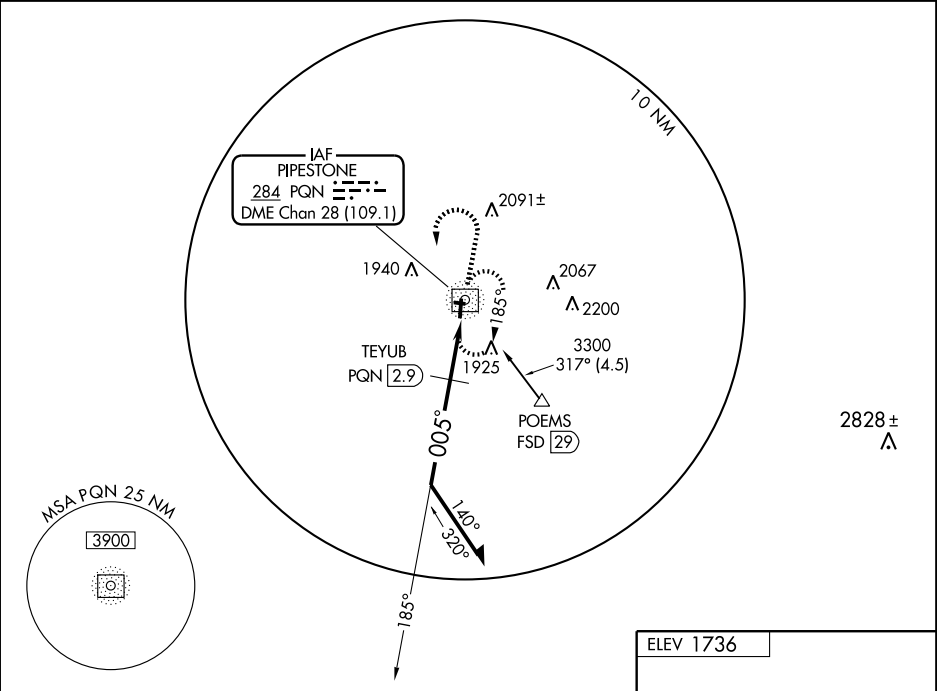
NDB/DME PQN <b>284</b>	APP CRS <b>005°</b>	Rwy Idg TDZE Apt Elev	<b>4302</b> <b>1734</b> <b>1736</b>
DME Chan <b>28 (109.1)</b>			

NDB RWY 36  
PIPESTONE MUNI (PQN)

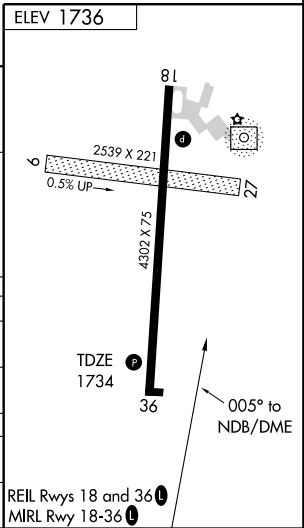
**⚠** When local altimeter setting not received, use Sioux Falls altimeter setting and increase all MDAs 120 feet, S-36 Cat. B visibility ¼ mile, Cat. C visibility ½ mile and TEYUB FIX MINIMUMS Cat. C visibility ¼ mile.  
VDP NA with Sioux Falls altimeter setting.

MISSED APPROACH: Climb to 3300 then left turn direct PQN NDB and hold.

AWOS-3 <b>118.375</b>	MINNEAPOLIS CENTER <b>132.05 317.4</b>	GCO <b>121.725</b>	UNICOM <b>122.8 (CTAF) 0</b>
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CATEGORY	A	B	C	D
S-36	2360-1	626 (700-1)	2360-1¾ 626 (700-1¾)	NA
CIRCLING	2360-1	624 (700-1)	2360-1¾ 624 (700-1¾)	NA
TEYUB FIX MINIMUMS				
S-36	2280-1	546 (600-1)	2280-1½ 546 (600-1½)	NA
CIRCLING	2280-1	544 (600-1)	2280-1½ 544 (600-1½)	NA



APP CRS	Rwy Idg	4302
163°	TDZE	1736
	Apt Elev	1736

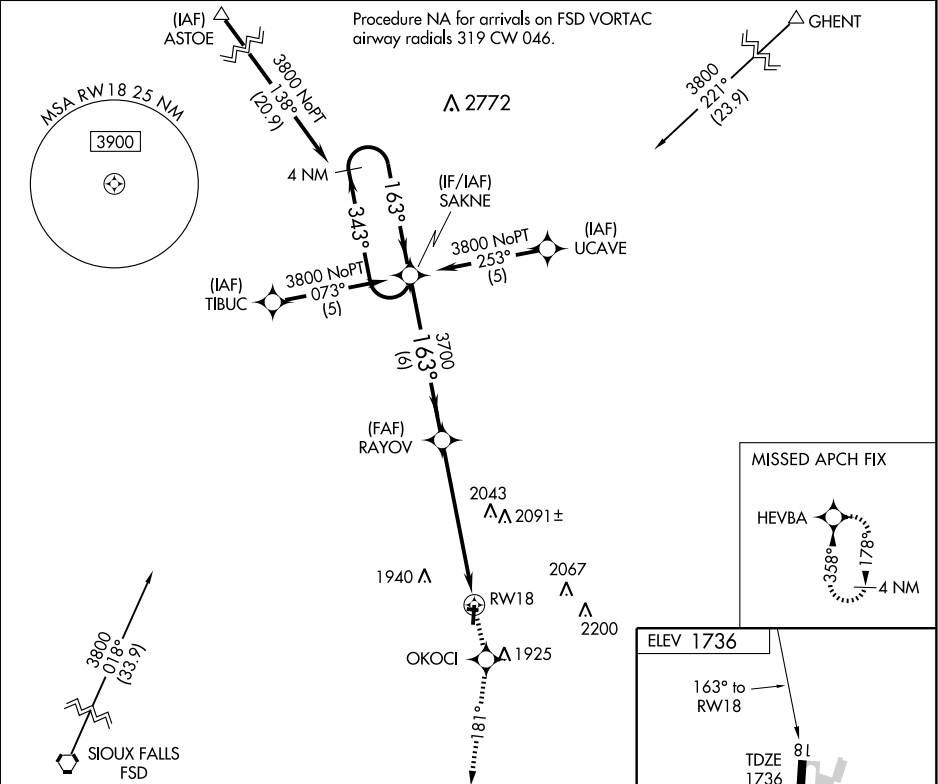
# RNAV (GPS) RWY 18

PIPESTONE MUNI (PQN)

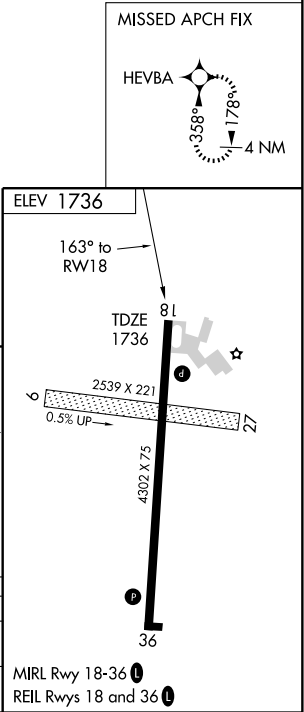
**⚠** DME/DME RNP -0.3 NA.  
**⚠** When local altimeter setting not received, use Sioux Falls altimeter setting and increase all MDAs 120 feet and Cat C visibility ¼ mile. VDP NA with Sioux Falls altimeter setting.

MISSED APPROACH: Climb to 3300 direct OKOCI and via 181° track to HEVBA and hold.

AWOS-3 <b>118.375</b>	MINNEAPOLIS CENTER <b>132.05 317.4</b>	GCO <b>121.725</b>	UNICOM <b>122.8 (CTAF) 1</b>
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4 NM Holding Pattern		3300 OKOCI 181° track HEVBA	
SAKNE		RAYOV	
3800 ← 343° 163° →		1.3 NM to RW18	
VGS1 and descent angles not coincident		RW18	
6 NM		4.7 NM	
3700		3.02° TCH 40	
CATEGORY	A	B	C
LNAV MDA	2180-1	444 (500-1)	2180-1¼ 444 (500-1¼)
CIRCLING	2180-1 444 (500-1)	2200-1 464 (500-1)	2280-1½ 544 (600-1½)



APP CRS	Rwy Idg	4302
358°	TDZE	1734
	Apt Elev	1736

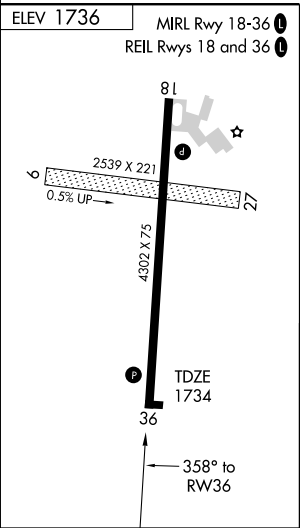
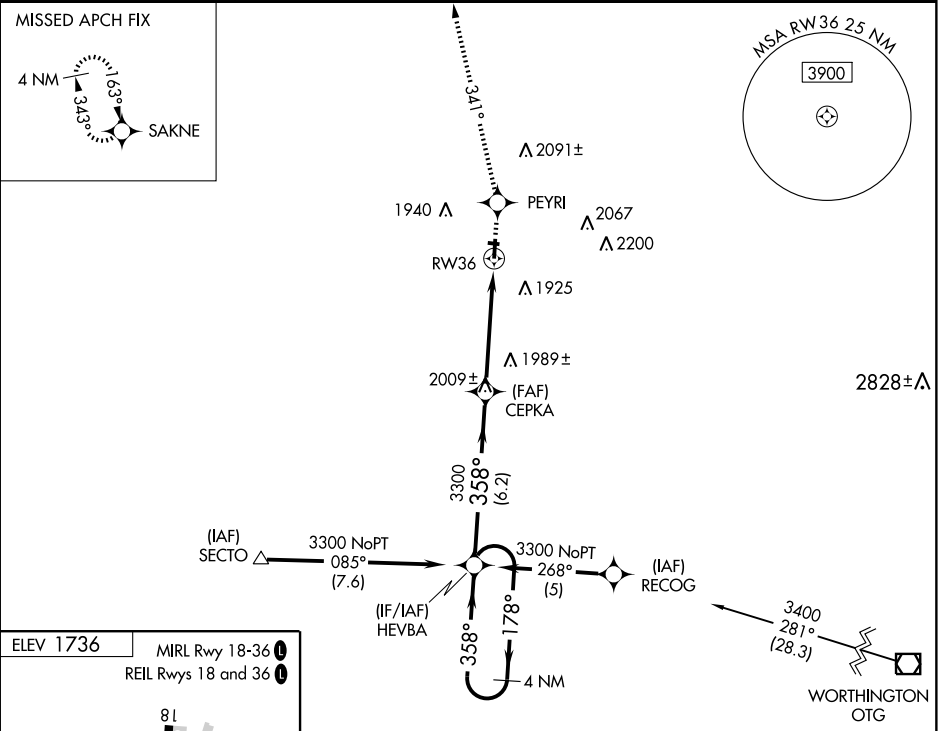
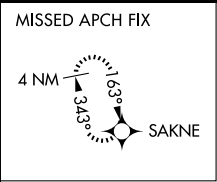
# RNAV (GPS) RWY 36

PIESTONE MUNI (PQN)

**⚠** DME/DME RNP -0.3 NA.  
**⚠** When local altimeter setting not received, use Sioux Falls altimeter setting and increase all MDAs 120 feet and Cat. C visibilities ¼ mile. VDP NA with Sioux Falls altimeter setting.

MISSED APPROACH: Climb to 3800 direct PEYRI and via 341° track to SAKNE and hold.

AWOS-3 118.375	MINNEAPOLIS CENTER 132.05 317.4	GCO 121.725	UNICOM 122.8 (CTAF) <b>0</b>
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Procedure NA for arrivals at SECTO via V148 southwest bound and arrivals at OTG VOR/DME via V250 northeast bound.

<div>4 NM Holding Pattern</div>		<div>HEVBA</div>		<div>CEPKA</div>		<div>3800</div> <div>↑</div>		<div>PEYRI</div> <div>✦</div>		<div>341° track</div> <div>✦</div>		<div>SAKNE</div> <div>✦</div>	
<div>3300 ← 178° 358° → 358° → 3300</div>													
<div>1.5 NM to RW36</div> <div>3.04° TCH 30</div> <div>6.2 NM</div> <div>3.3 NM</div> <div>1.5</div> <div>RW36</div>													
CATEGORY		A		B		C		D					
LNAV MDA		2240-1		506 (600-1)		2240-1½ 506 (600-1½)		NA					
CIRCLING		2240-1		504 (600-1)		2280-1½ 544 (600-1½)		NA					

APP CRS	Rwy Idg	4000
286°	TDZE	1276
	Apt Elev	1276

# RNAV (GPS) RWY 29

PRESTON/ FILLMORE COUNTY (FKA)

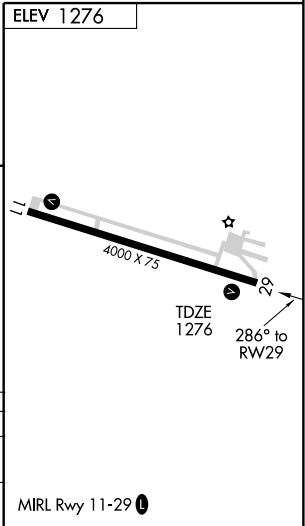
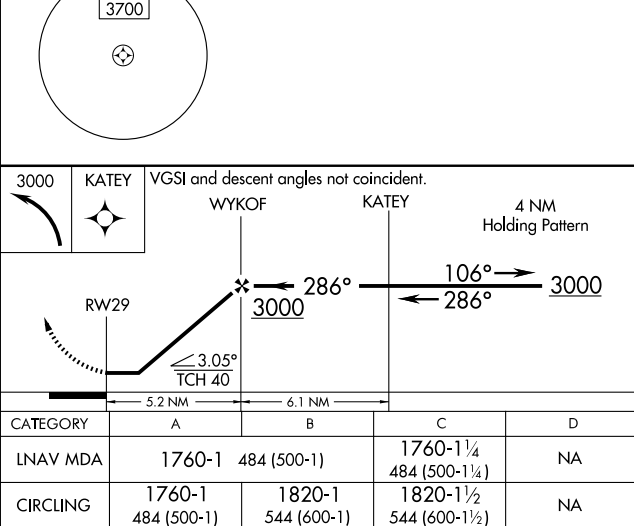
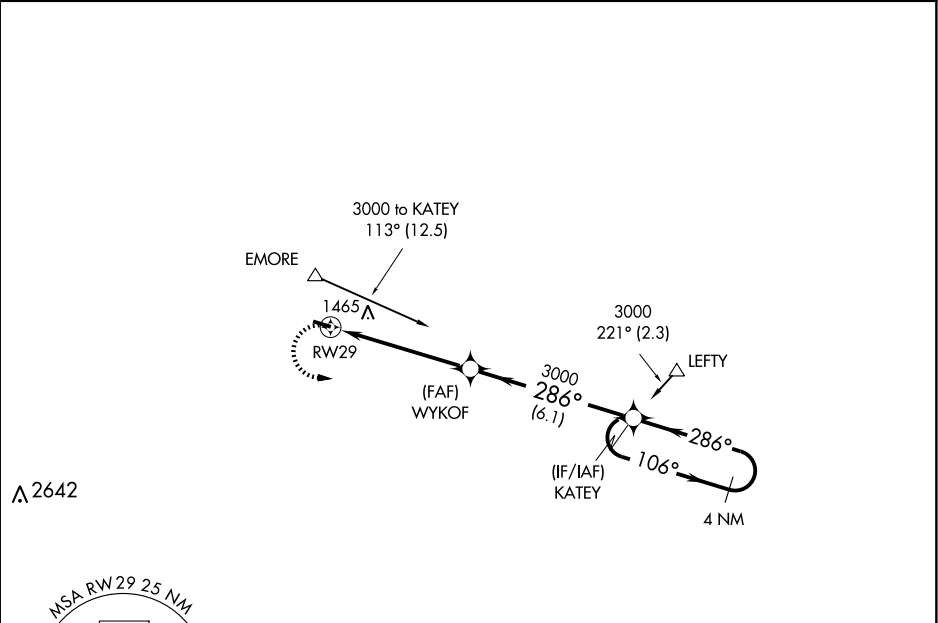
**⚠** When VGSI inoperative, procedure NA at night.

**⚠** DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA.

When local altimeter setting not received, use Rochester Intl altimeter setting and increase all MDAs 60 feet and LNAV and Circling Cat. C visibilities ¼ mile.

MISSED APPROACH: Climbing left turn to 3000 direct KATEY and hold

AWOS-3 118.550	ROCHESTER APP CON ★ 119.8 251.125	CTAF 122.9 0
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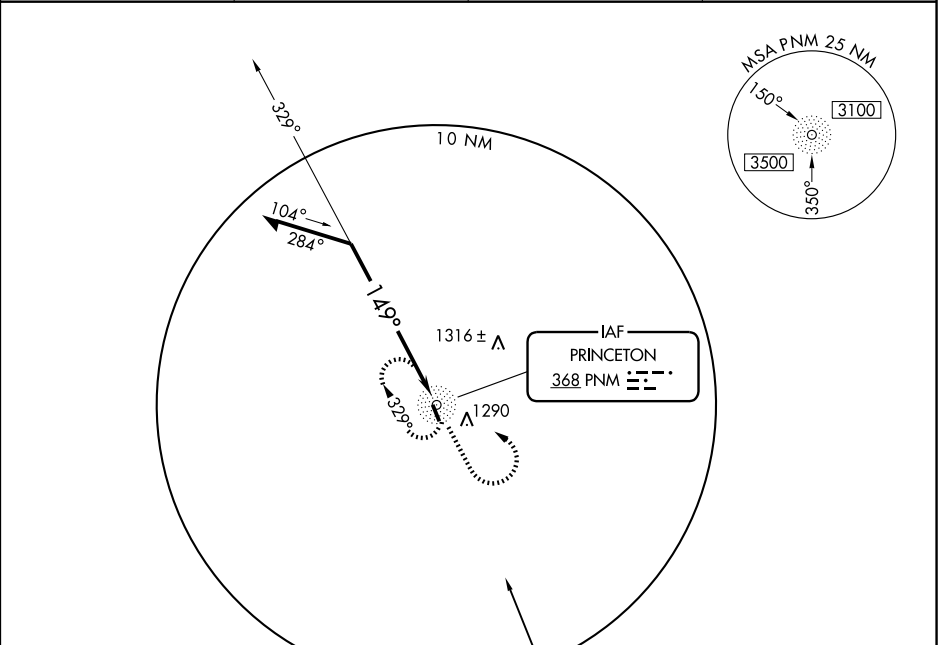




NDB RWY 15  
PRINCETON MUNI (PNM)

NDB PNM	APP CRS	Rwy Idg	3900
368	149°	TDZE	979
		Apt Elev	979

		MISSED APPROACH: Climb to 3000 then left turn direct PNM NDB and hold.	
AWOS-3 119.025	MINNEAPOLIS CENTER 121.05 397.9	PRINCETON RADIO 122.2	UNICOM 123.0 (CTAF)



Remain within 10 NM

3000

329°

149°

NDB

3000

PNM 368

ELEV 979

149° to NDB

TDZE 979

3900 ± 75

33

CATEGORY	A	B	C	D
S-15	1560-1	581 (600-1)	1560-1½ 581 (600-1½)	NA
CIRCLING	1640-1	661 (700-1)	1640-1¾ 661 (700-1¾)	NA

REIL Rwy 15 and 33  
MRL Rwy 15-33

APP CRS	Rwy Idg	<b>3900</b>
<b>159°</b>	TDZE	<b>979</b>
	Apt Elev	<b>979</b>

RNAV (GPS) RWY 15  
PRINCETON MUNI (PNM)

PRINCETON MUNI (PNM)

**T** When VGSI inoperative, procedure NA at night.  
DME/DME RNP-0.3 NA.  
Circling Rwy 33 NA at night.

**MISSED APPROACH:** Climbing right turn to 3000 direct GOLFF and hold.

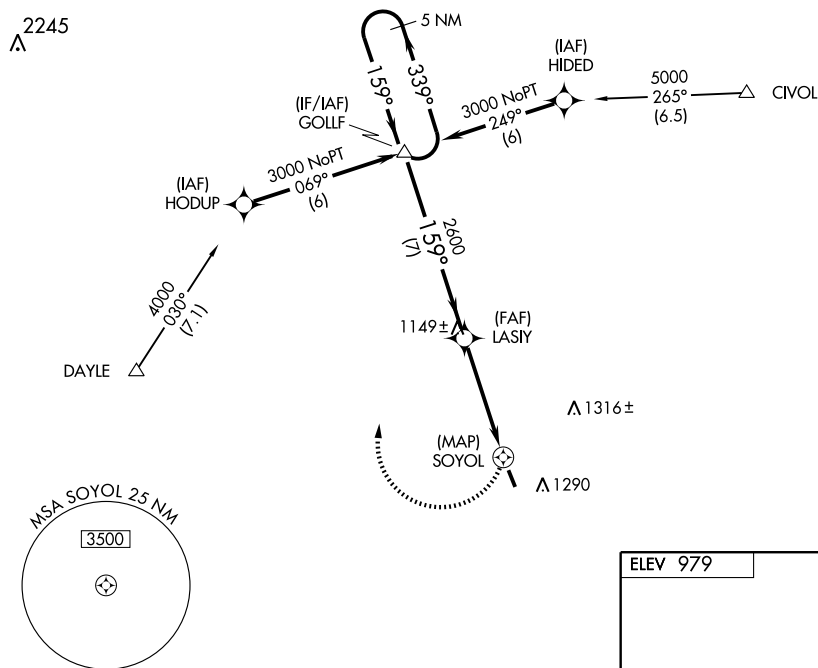
AWOS-3  
119.025

MINNEAPOLIS CENTER  
121.05 397.9

PRINCETON RADIO  
122.2

UNICOM  
123.0 (CTAF) **L**

Procedure NA for arrivals on V413 southbound.



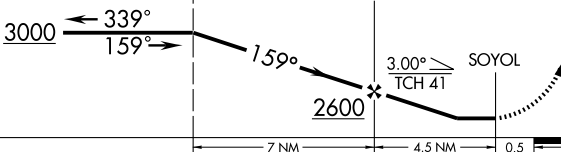
5 NM  
Holding Pattern

## GOLF

LASIY

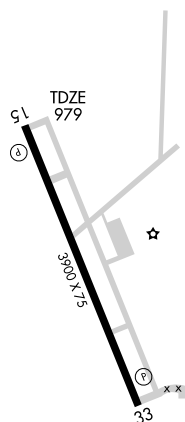
3000
------

GOLLF

 $\wedge$ 

CATEGORY	A	B	C	D
LNAY MDA	1380-1	401 (500-1)	1380-1¼ 401 (500-1¼)	NA
CIRCLING	1640-1	661 (700-1)	1640-1¼ 661 (700-1¼)	NA

ELEV 979



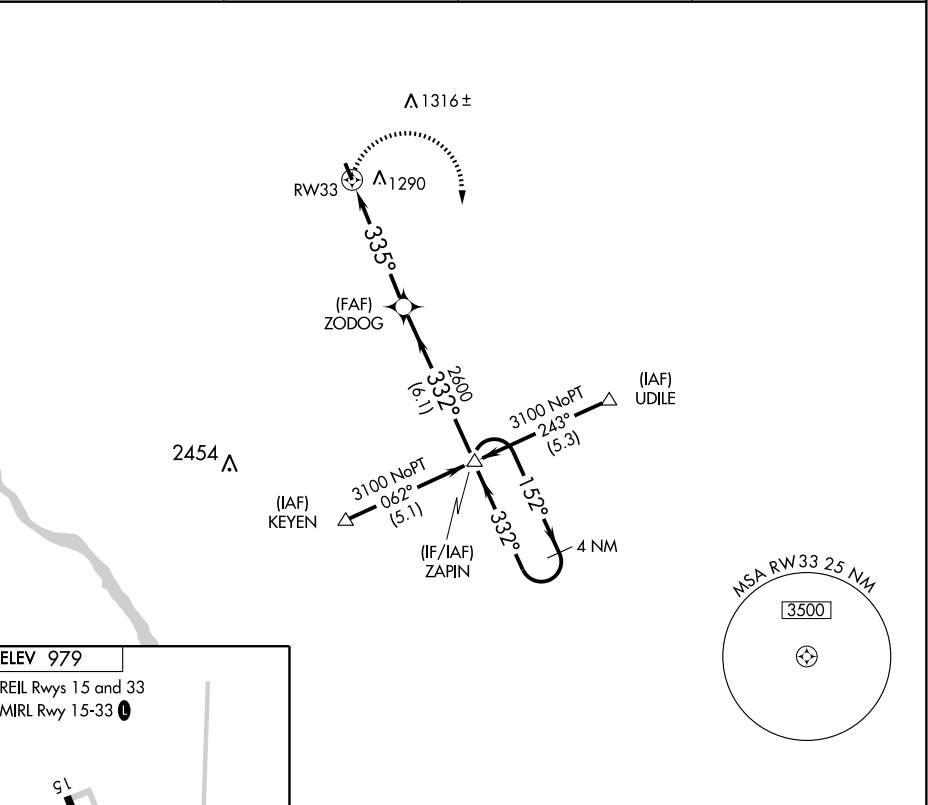
REIL Rwy 15 and 33  
MIRL Rwy 15-33 **L**

APP CRS	Rwy Idg	3900
335°	TDZE	979
	Apt Elev	979

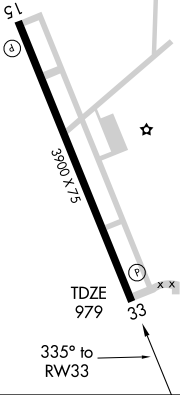
# RNAV (GPS) RWY 33

PRINCETON MUNI (PNM)

Procedure NA at night. DME/DME RNP- 0.3 NA.		MISSED APPROACH: Climbing right turn to 3100 direct ZAPIN and hold.	
AWOS-3 119.025	MINNEAPOLIS CENTER 121.05 397.9	PRINCETON RADIO 122.2	UNICOM 123.0 (CTAF) <b>0</b>



ELEV 979  
REIL Rwy 15 and 33  
MIRL Rwy 15-33 **0**



		ZODOG		ZAPIN 4 NM Holding Pattern	
RW33		2600		3100	
4.9 NM		6.1 NM			
CATEGORY	A	B	C	D	
RNAV MDA	1500-1	521 (600-1)	1500-1½ 521 (600-1½)	NA	
CIRCLING	1640-1	661 (700-1)	1640-1¾ 661 (700-1¾)	NA	



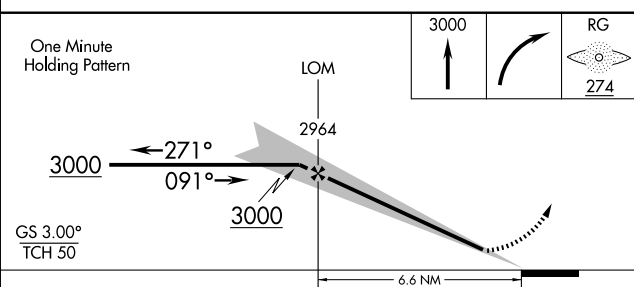
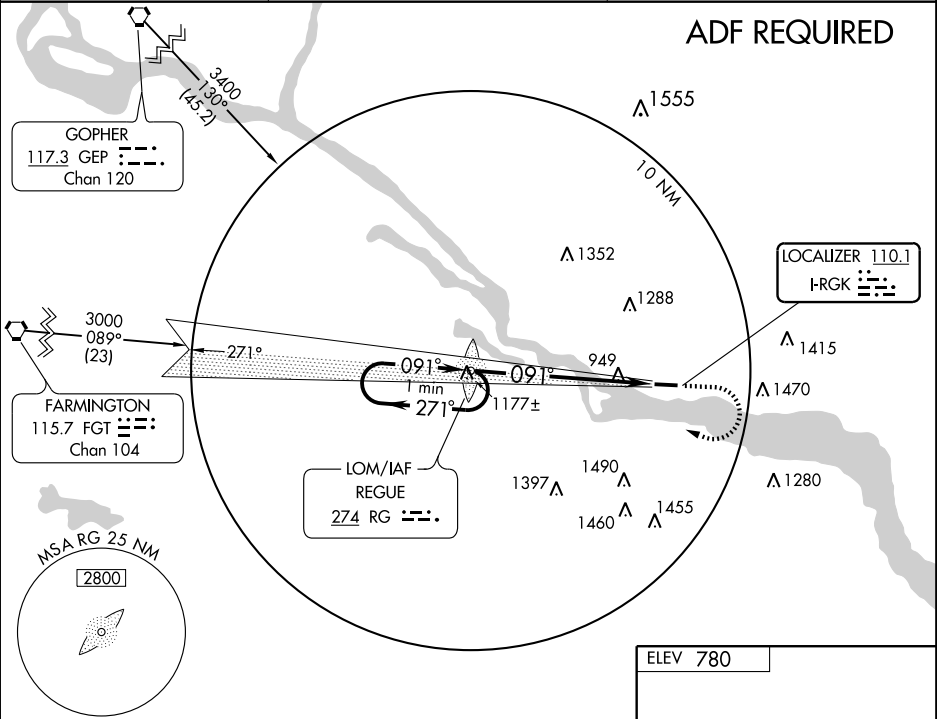
LOC I-RGK <b>110.1</b>	APP CRS <b>091°</b>	Rwy Idg TDZE Apt Elev	<b>5010</b> <b>778</b> <b>780</b>
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NA

MALSR

MISSED APPROACH: Climb to 3000 then right turn direct REGUE LOM and hold.

AWOS-3 <b>119.25</b>	MINNEAPOLIS APP CON <b>121.2 357.4</b>	UNICOM <b>123.05 (CTAF) 0</b>
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ELEV 780

REIL Rwy 27

HIRL Rwy 9-27

FAF to M 6.6 NM

Knots	60	90	120	150	180
Min:Sec	6:36	4:24	3:18	2:38	2:12

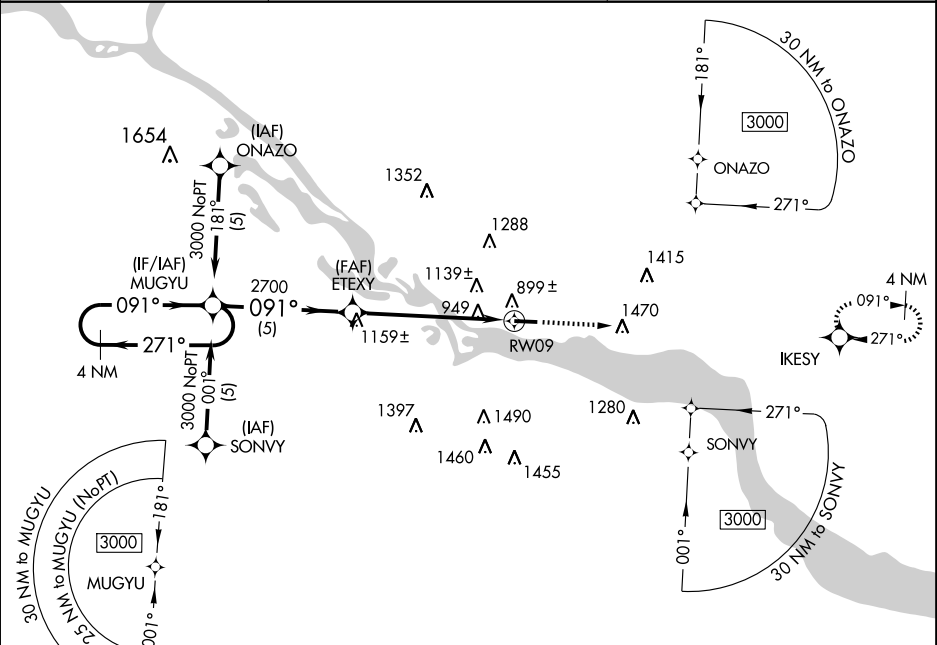
CATEGORY	A	B	C	D
S-ILS 9	978-½ 200 (200-½)			
S-LOC 9	1380-½ 602 (600-½)	1380-1¼ 602 (600-1¼)	1380-1½ 602 (600-1½)	
CIRCLING	1480-1 700 (700-1)	1520-1 740 (800-1)	1540-2¼ 760 (800-2¼)	1540-2½ 760 (800-2½)

APP CRS <b>091°</b>	Rwy Idg TDZE Apt Elev	<b>5010</b> <b>778</b> <b>780</b>
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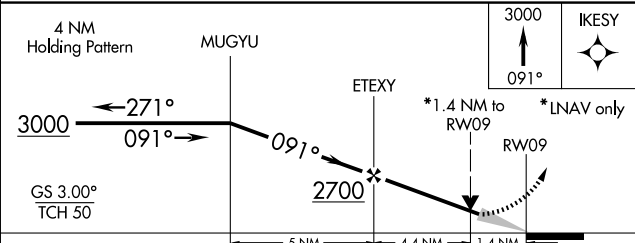
RNAV (GPS) RWY 9  
RED WING RGNL (RGK)

<b>▼</b> Baro VNAV NA below -16°C (4°F).	<b>MALSR</b> 	<b>MISSED APPROACH:</b> Climb to 3000 via course 091° to IKESY WP and hold.
<b>▲</b> NA GPS or RNP-0.3 required. DME/DME RNP-0.3 NA.		

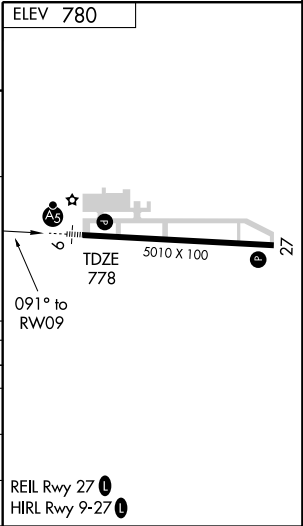
AWOS-3 <b>119.25</b>	MINNEAPOLIS APP CON <b>121.2 357.4</b>	UNICOM <b>123.05 (CTAF) 1</b>
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ELEV 780	
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CATEGORY	A	B	C	D
GLS PA DA	NA			
LNNAV/VNAV DA	1160-¾ 382 (400-¾)			NA
LNNAV MDA	1260-½ 482 (500-½)		1260-¾ 482 (500-¾)	NA
CIRCLING	1480-1¼ 700 (700-1¼)	1520-1¼ 740 (800-1¼)	1540-2¼ 760 (800-2¼)	NA

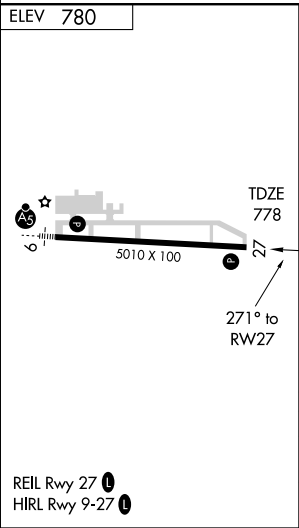
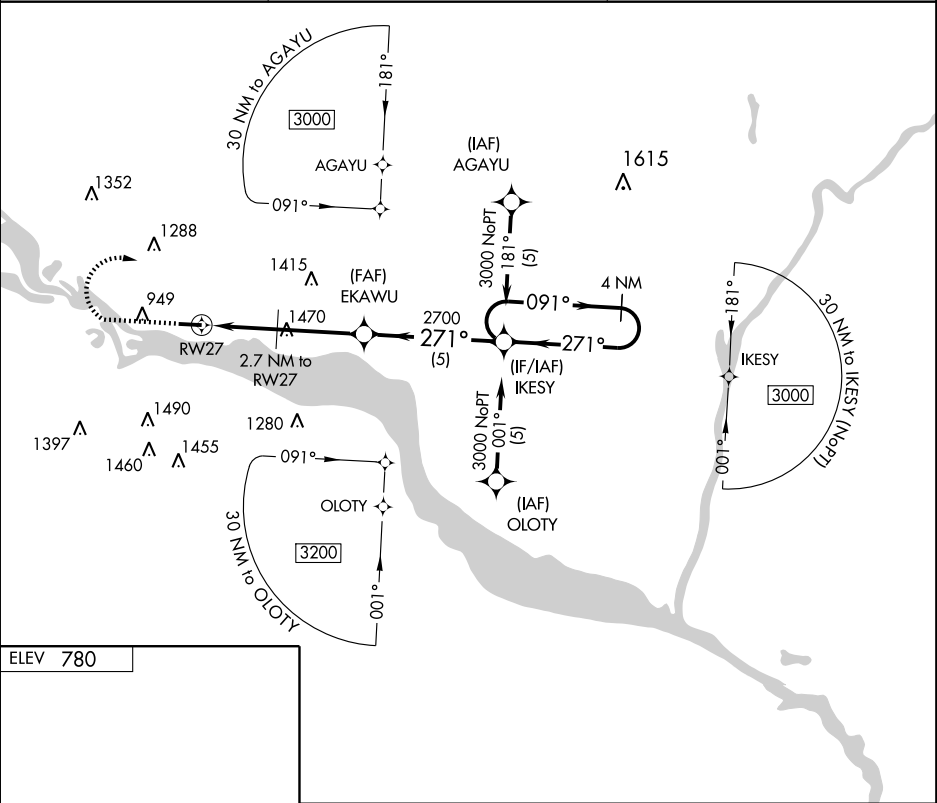


APP CRS 271°	Rwy Idg 5010 TDZE 778 Apt Elev 780
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RNAV (GPS) RWY 27  
RED WING RGNL (RGK)

NA GPS or RNP-0.3 required. DME/DME RNP-0.3 NA.	MISSED APPROACH: Climb to 2100, then climbing right turn to 3000 direct IKESY WP and hold.
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AWOS-3 119.25	MINNEAPOLIS APP CON 121.2 357.4	UNICOM 123.05 (CTAF)
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	2100	3000	IKESY	IKESY	4 NM Holding Pattern
			2.7 NM to RW27	EKAUW	IKESY
			2.1 NM to RW27	2700	091° → 3000
			3.14° TCH 45		← 271°
			2.1 NM	0.6 NM	3.1 NM
					5 NM
CATEGORY	A	B	C	D	
LNAV MDA	1520-1	742 (800-1)	1520-2¼ 742 (800-2¼)	NA	
CIRCLING	1520-1	740 (800-1)	1540-2¼ 760 (800-2¼)	NA	

WAAS CH <b>86610</b> <b>W30A</b>	APP CRS <b>304°</b>	Rwy Idg <b>4001</b> TDZE <b>1024</b> Apt Elev <b>1024</b>
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## RNAV (GPS) RWY 30

REDWOOD FALLS MUNI (RWF)

**▼** DME/DME RNP -0.3 NA. Visibility reduction by helicopters NA.  
**▲** For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (114°F).  
 Baro-VNAV NA when using Olivia Rgnl altimeter setting.  
 When local altimeter setting not received, use Olivia Rgnl altimeter setting and increase all DA/MDA 40 feet and LNAV Cat C visibility ¼ mile.

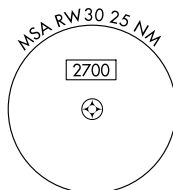
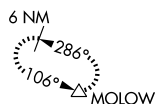
**MISSED APPROACH:** Climb to 3800 direct ZUMIV and via 258° track to MOLOW and hold.

ASOS  
126.575

MINNEAPOLIS CENTER  
127.1 290.2

UNICOM  
123.0 (CTAF) 

MISSED APCH FIX



3500  
195°  
(7.8)

COMOS

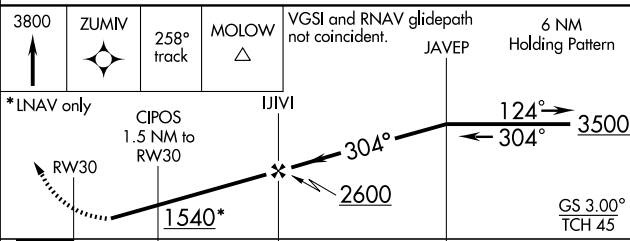
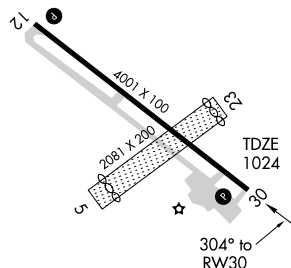
ZUMIV

REDWOOD FALLS  
RWF

A1588


ELEV 1024

Procedure NA for arrivals at MKT VOR/DME via V250 northeast bound.



CATEGORY		A	B	C	D
LPV	DA	1304-1 280 (300-1)			
RNAV/ VNAV	DA	1440-1½ 416 (500-1½)			
RNAV	MDA	1400-1 376 (400-1)			1400-1¼ 376 (400-1¼)
CIRCLING		1480-1 456 (500-1)	1580-1 556 (600-1)	1580-1½ 556 (600-1½)	1700-2¼ 676 (700-2¼)

NC-1. 22 OCT 2009 to 19 NOV 2009

REIL Rwy 12 and 30 **L**MIRL Rwy 12-30 



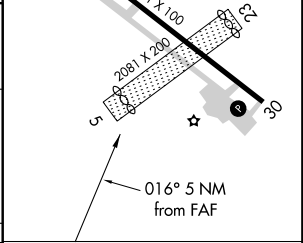
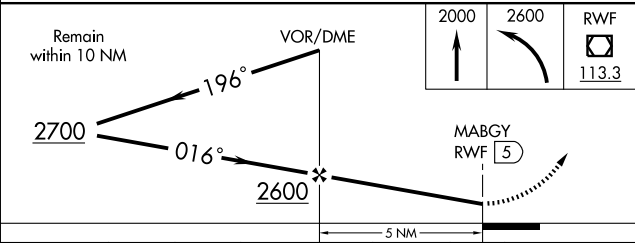
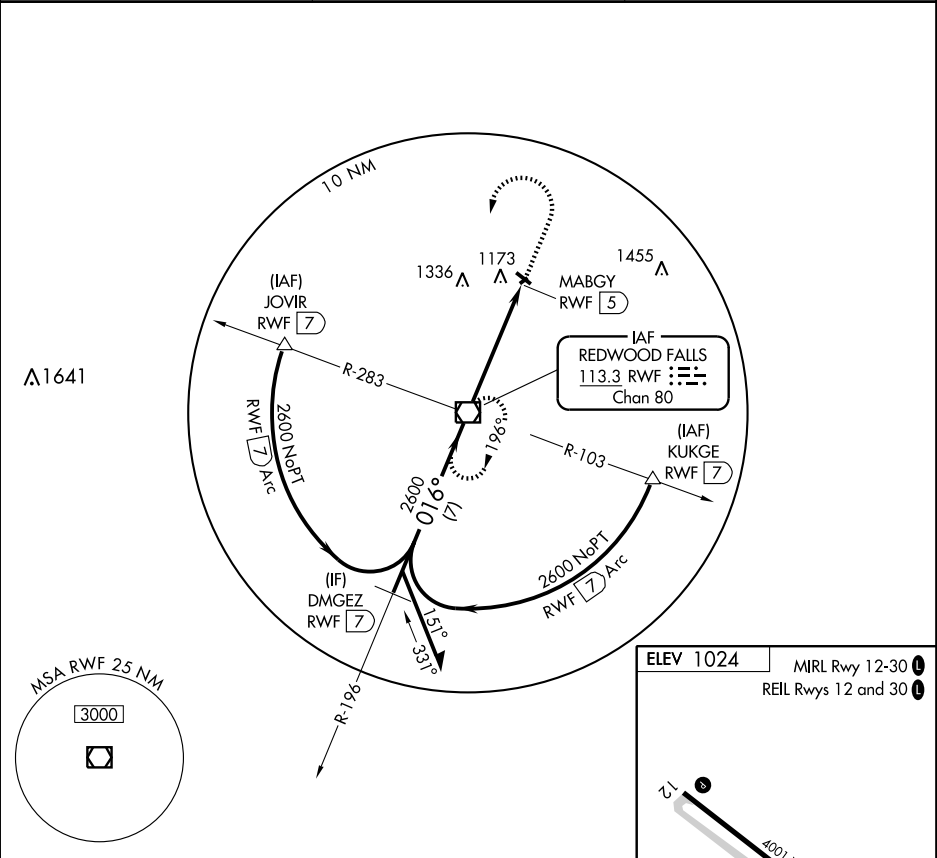
VOR/DME RWF	APP CRS	Rwy Idg	N/A
113.3	016°	TDZE	N/A
Chan 80		Apt Elev	1024

VOR-A

REDWOOD FALLS MUNI (RWF)

<p><b>⚠</b> When local altimeter setting not received, use Olivia Rgnl altimeter setting and increase all MDA 40 feet.</p>	<p>MISSED APPROACH: Climb to 2000 then climbing left turn to 2600 direct RWF VOR/DME and hold.</p>
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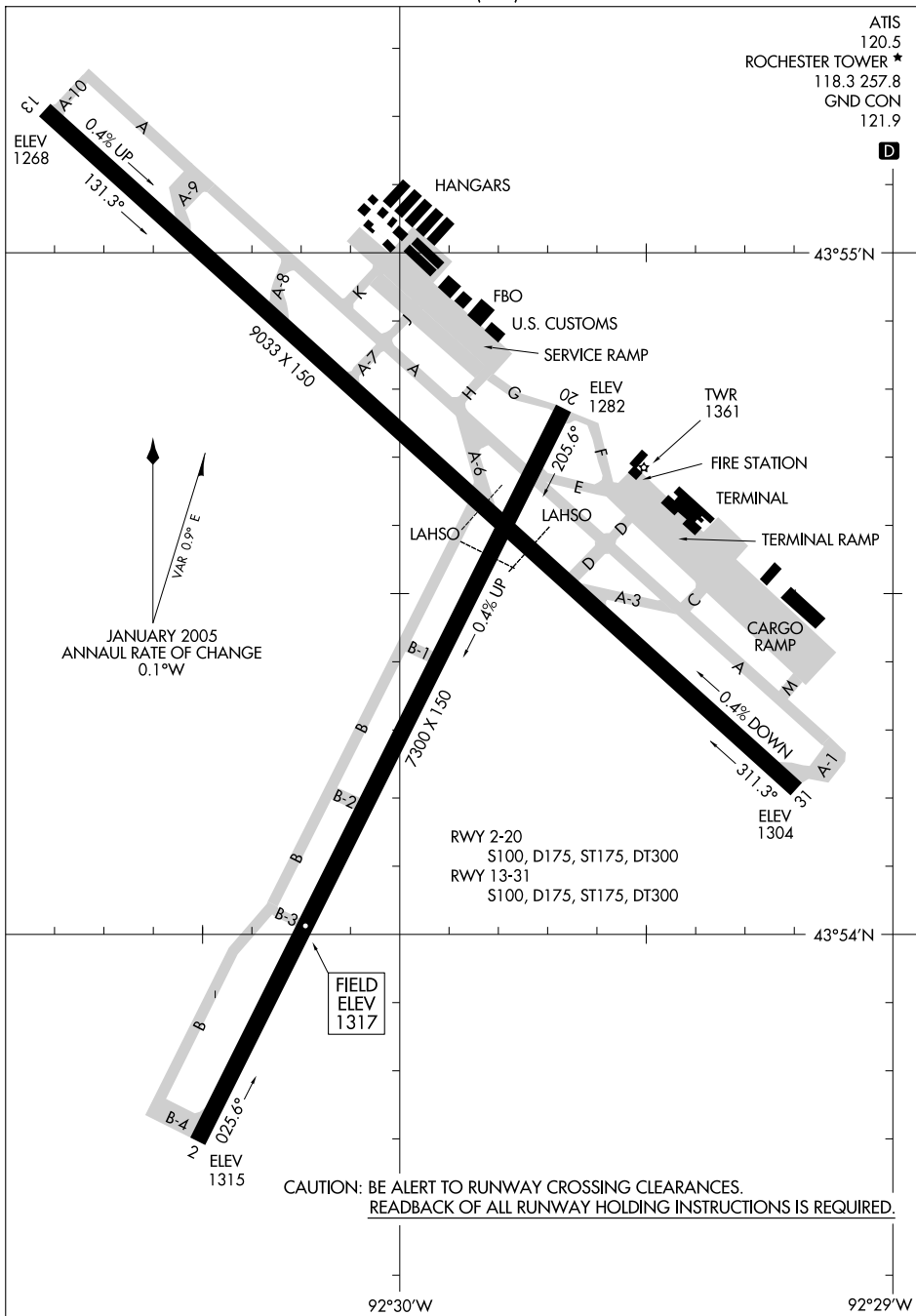
ASOS 126.575	MINNEAPOLIS CENTER 127.1 290.2	UNICOM 123.0 (CTAF) 0
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CATEGORY	A	B	C	D	FAF to MAP 5 NM					
CIRCLING	1540-1 516 (600-1)	1580-1 556 (600-1)	1580-1½ 556 (600-1½)	1700-2¼ 676 (700-2¼)	Knots	60	90	120	150	180
					Min:Sec	5:00	3:20	2:30	2:00	1:40

# AIRPORT DIAGRAM

AL-5041 (FAA)

 ROCHESTER INTL (RST)  
 ROCHESTER, MINNESOTA


NC-1, 22 OCT 2009 to 19 NOV 2009

LOC I-RST	APP CRS	Rwy Idg	<b>9033</b>
<b><u>108.5</u></b>	<b>311°</b>	TDZE	<b>1304</b>
		Apt Elev	<b>1317</b>

COPTER ILS or LOC RWY 31  
ROCHESTER INTL (RST)

**T**  
**A**  
ASR For inoperative MALSR, increase visibility to RVR 2400.



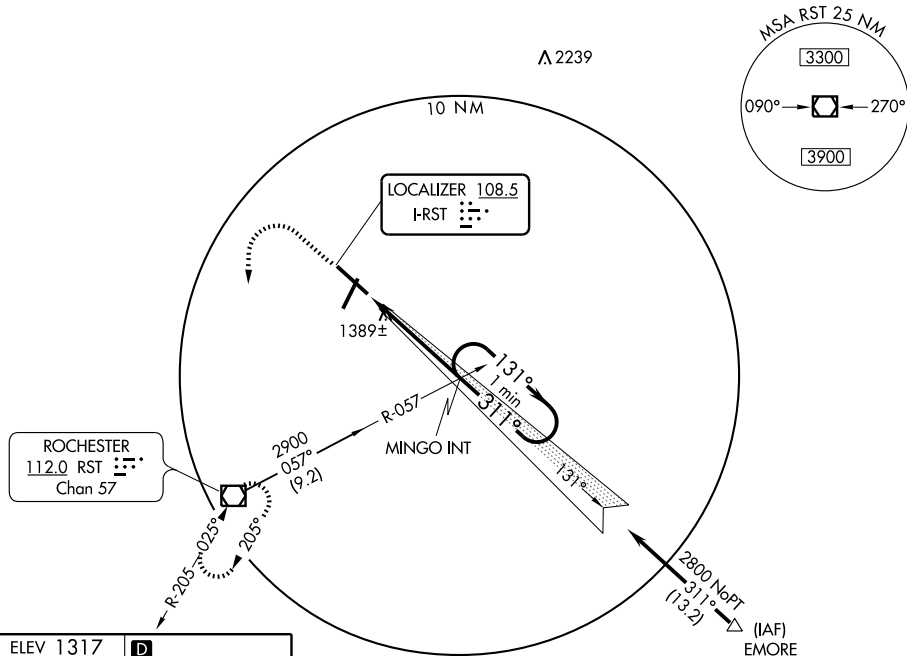
**MISSED APPROACH:** Climb to 2000 then climbing left turn to 3000 direct RST VOR/DME and hold.

ATIS  
**120.5**

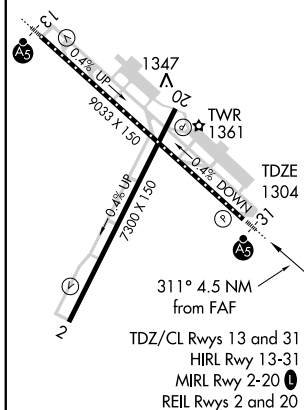
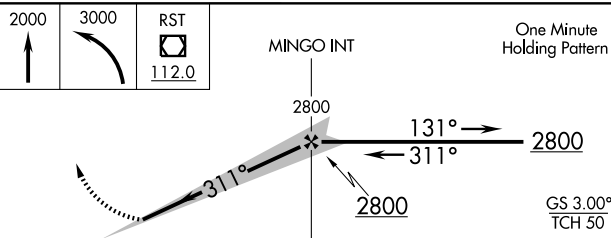
ROCHESTER APP CON★  
119.8 251.125

ROCHESTER TOWER★  
118.3 (CTAF) **L** 257.8

GND CON  
**121.9**

UNICOM  
122.95

ELEV 1317

 $\Lambda 2549^{\pm}$ 

IDZ/CJ Rwy's 13 and 31							CATEGORY		COPTER		B		C		D	
HIRL Rwy 13-31							S-ILS 31		1504/16 200 (200-¼)				NA			
MIRL Rwy 2-20																
REIL Rwy's 2 and 20																
FAF to MAP 4.5 NM							S-LOC 31		1660/16 356 (400-¼)				NA			
Knots		60	90	120	150	180										
Min:Sec		4:30	3:00	2:15	1:48	1:30	CIRCLING						NA			

LOC I-MNK	APP CRS	Rwy Idg	9033
109.1	131°	TDZE	1280
		Apt Elev	1317

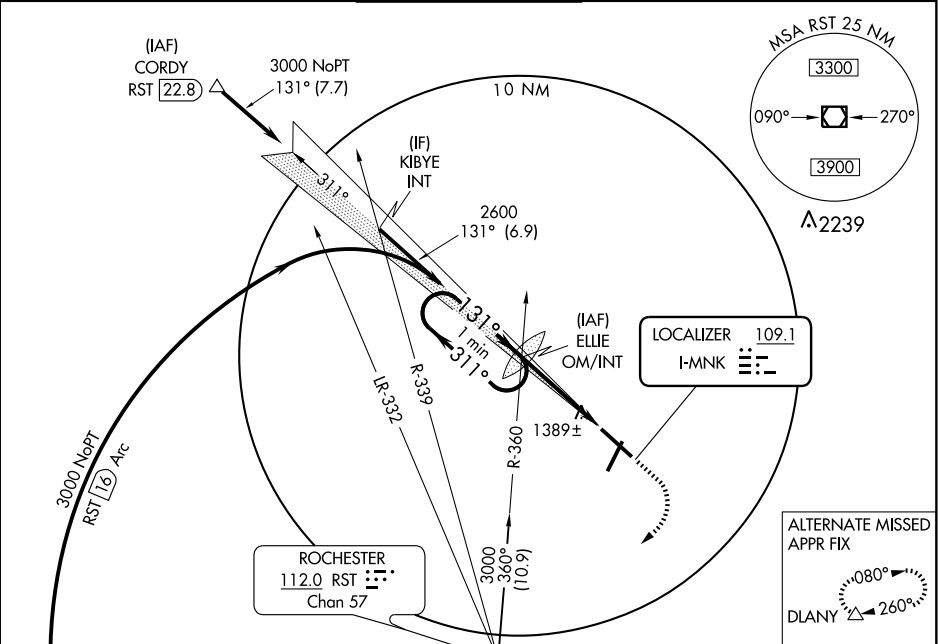
ILS or LOC RWY 13  
ROCHESTER INTL (RST)

ASR

MALS

MISSED APPROACH: Climb to 2000 then climbing right turn to 3000 direct RST VOR/DME and hold.

ATIS 120.5	ROCHESTER APP CON★ 119.8 251.125	ROCHESTER TOWER★ 118.3 (CTAF) 0 257.8	GND CON 121.9	UNICOM 122.95
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One Minute Holding Pattern

2900

← 311°

131° →

GS 3.00°

TCH 55

ELLIE OM/INT

2554

2600

2000

↑

3000

↷

RST

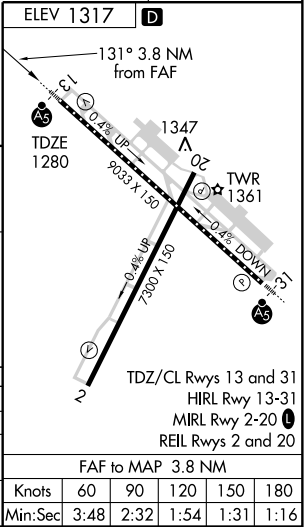
112.0

✧

3.8 NM

↘

CATEGORY	A	B	C	D
S-ILS 13	1480/18 200 (200-½)			
S-LOC 13	1640/24 360 (400-½)			1640/40 360 (400-¾)
CIRCLING	1720-1 403 (500-1)	1780-1 463 (500-1)	1780-1½ 463 (500-1½)	1880-2 563 (600-2)



LOC I-RST	APP CRS	Rwy Idg	9033
108.5	311°	TDZE	1304
		Apt Elev	1317

ILS or LOC RWY 31  
ROCHESTER INTL (RST)

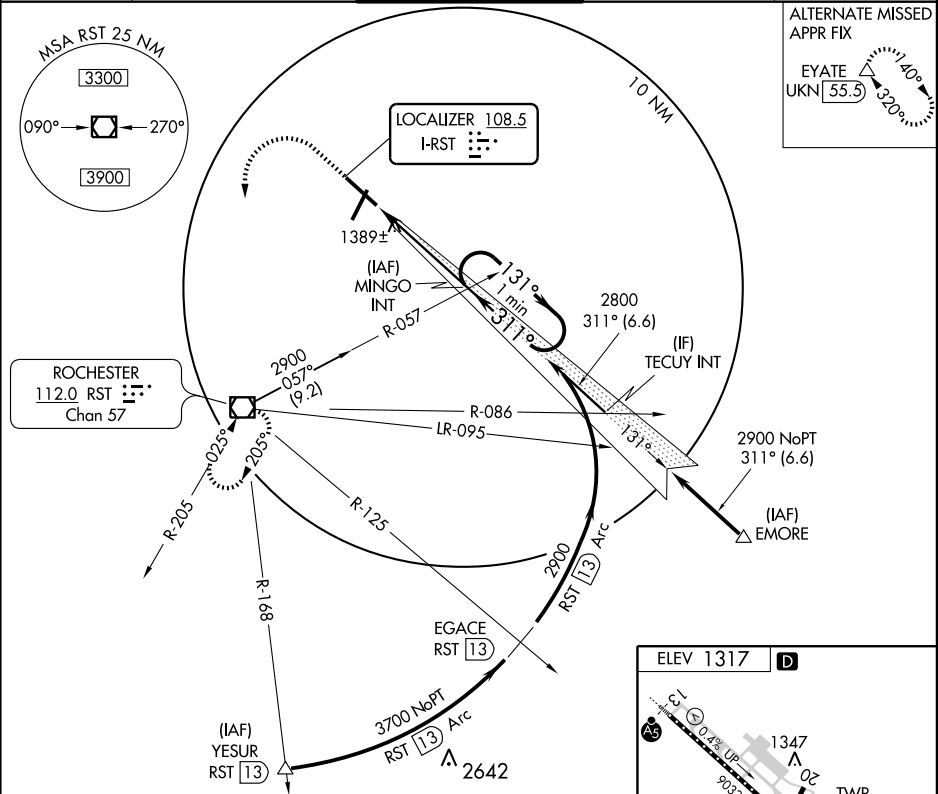
**Autopilot coupled approach not authorized below 1542 MSL.**

**ASR**

**MALSR**

**MISSED APPROACH:** Climb to 2000 then climbing left turn to 3000 direct RST VOR/DME and hold.

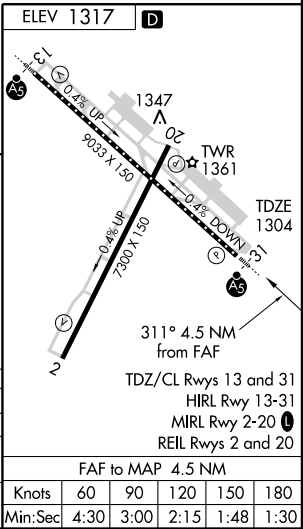
ATIS 120.5	ROCHESTER APP CON ★ 119.8 251.125	ROCHESTER TOWER ★ 118.3 (CTAF) 257.8	GND CON 121.9	UNICOM 122.95
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**ALTERNATE MISSED APPR FIX**

EYATE  
UKN 55.5

2000	3000	RST	112.0
↑	↻	□	
CATEGORY			
A			
B			
C			
D			
S-ILS 31			
1504/18 200 (200-½)			
S-LOC 31			
1660/24 356 (400-½)			
1660/40 356 (400-¾)			
1880-2			
563 (600-2)			
CIRCLING			
1720-1 403 (500-1)			
1780-1 463 (500-1)			
1780-1½ 463 (500-1½)			



APP CRS	Rwy Idg	<b>7300</b>
<b>025°</b>	TDZE	<b>1317</b>
	Apt Elev	<b>1317</b>

# RNAV (GPS) RWY 2

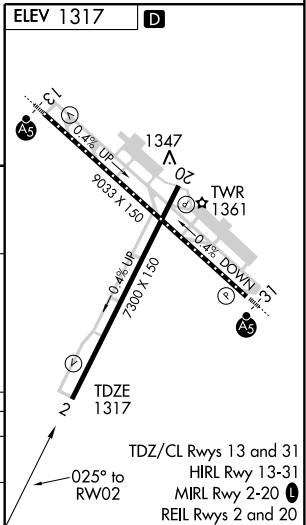
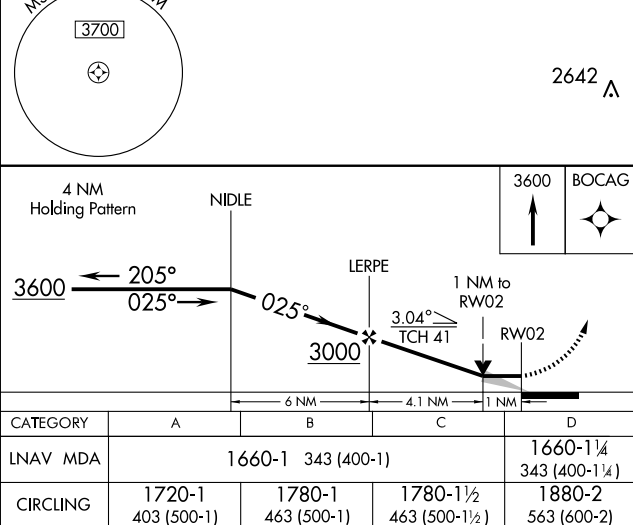
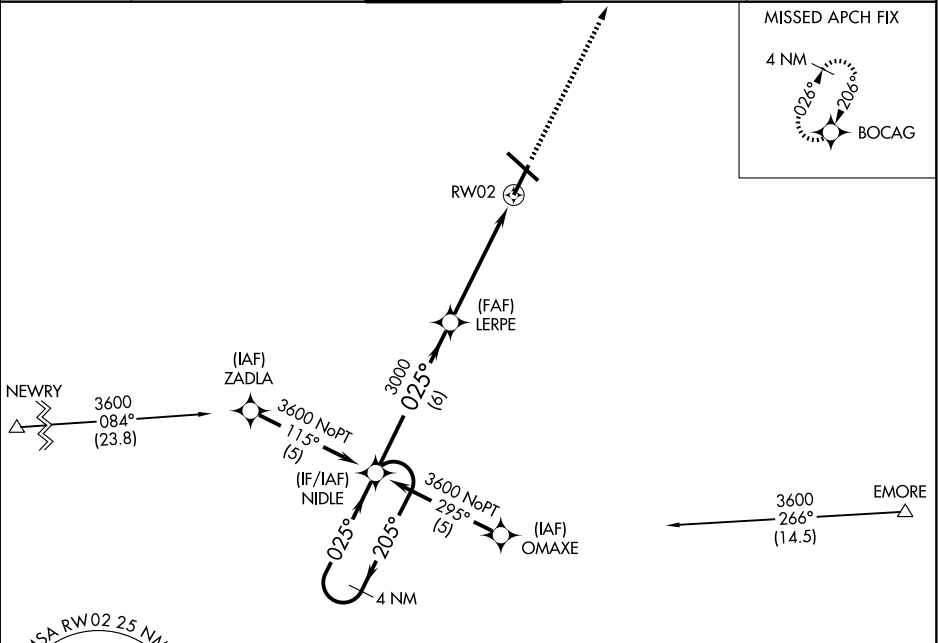
ROCHESTER INTL (RST)

**NA** GPS or RNP-0.3 required. DME/DME RNP-0.3 NA.

**ASR**

MISSED APPROACH: Climb to 3600 direct BOCAG WP and hold.

ATIS <b>120.5</b>	ROCHESTER APP CON ★ <b>119.8 251.125</b>	ROCHESTER TOWER ★ <b>118.3 (CTAF) 257.8</b>	GND CON <b>121.9</b>	UNICOM <b>122.95</b>
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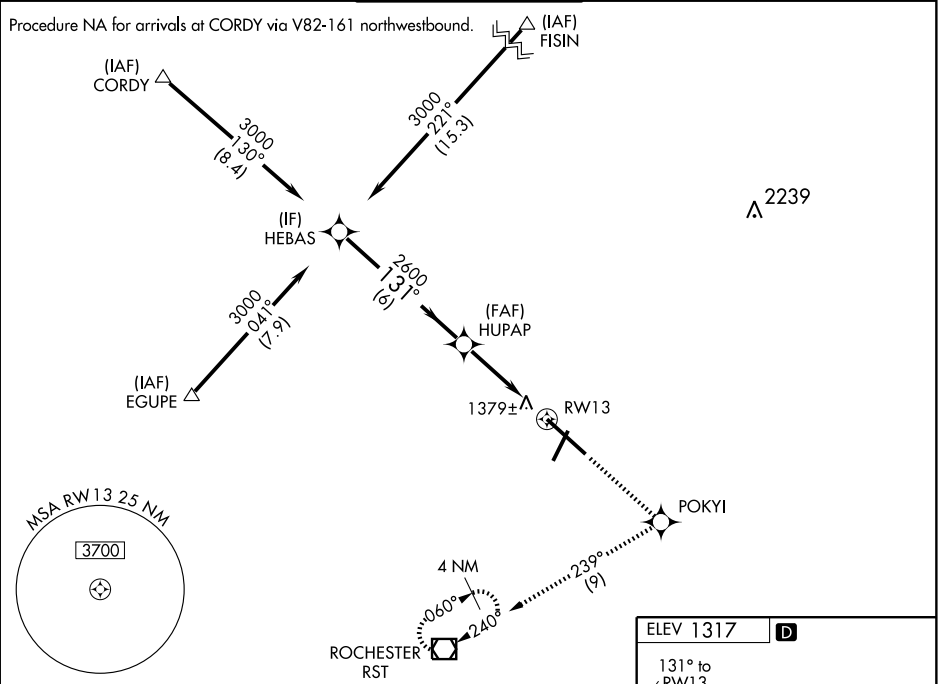
WAAS CH <b>90202</b> <b>W13A</b>	APP CRS <b>131°</b>	Rwy Idg TDZE <b>1280</b> Apt Elev <b>1317</b>
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# RNAV (GPS) RWY 13

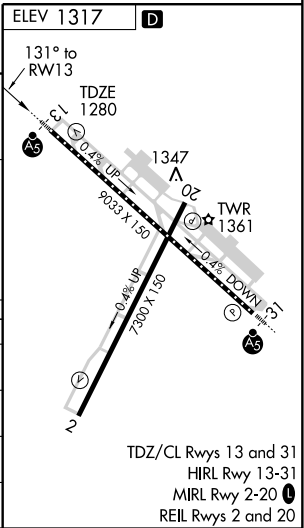
ROCHESTER INTL (RST)

<b>ASR</b> DME/DME RNP-0.3 NA. For uncompensated Baro-VNAV system, LNAV/VNAV NA below -17°C (2°F) or above 45°C (114°F). For inoperative MALSR increase LPV all Cats visibility to RVR 5000 and LNAV Cat D visibility to RVR 6000.	<b>MALSR</b> 	<b>MISSED APPROACH:</b> Climb to 2900 direct POKYI and via 239° track to RST VOR/DME and hold.
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ATIS <b>120.5</b>	ROCHESTER APP CON★ <b>119.8 251.125</b>	ROCHESTER TOWER★ <b>118.3 (CTAF) 0 257.8</b>	GND CON <b>121.9</b>	UNICOM <b>122.95</b>
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Procedure Turn NA	HEBAS	HUPAP	POKYI	239° track	RST
3000	131°	2600	*1 NM to RWY13	*LNAV only	
GS 3.00° TCH 53	6 NM	3 NM	1 NM		
CATEGORY	A	B	C	D	
LPV DA	1530/24 250 (300-½)				
LNAV/VNAV DA	1679/50 399 (400-1)				
LNAV MDA	1640/24 360 (400-½)			1640/50 360 (400-1)	
CIRCLING	1720-1½ 403 (500-1½)	1780-1½ 463 (500-1½)	1880-2 563 (600-2)		



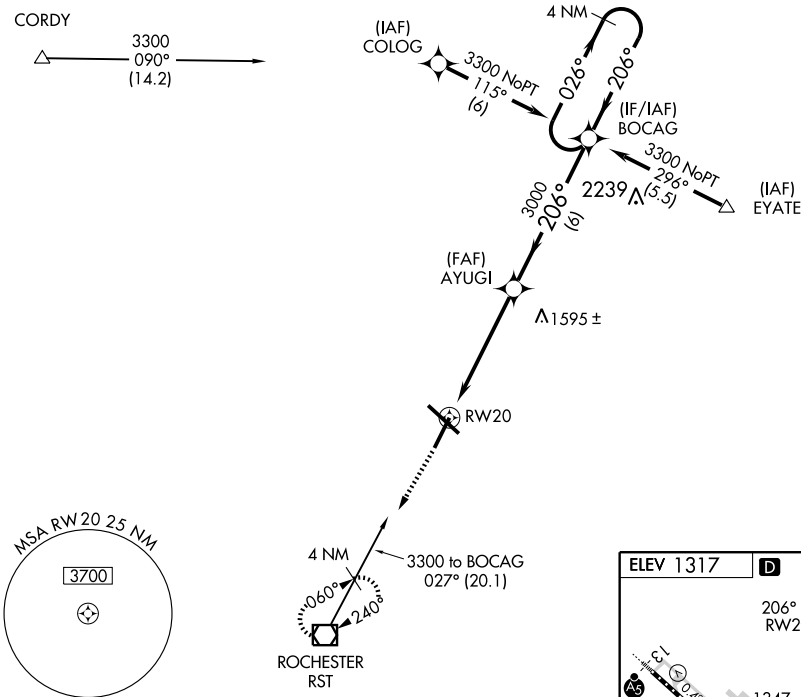
APP CRS <b>206°</b>	Rwy Idg TDZE Apt Elev	<b>7300</b> <b>1304</b> <b>1317</b>
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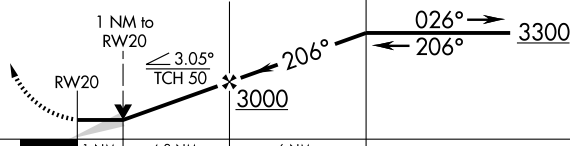
RNAV (GPS) RWY 20  
ROCHESTER INTL (RST)

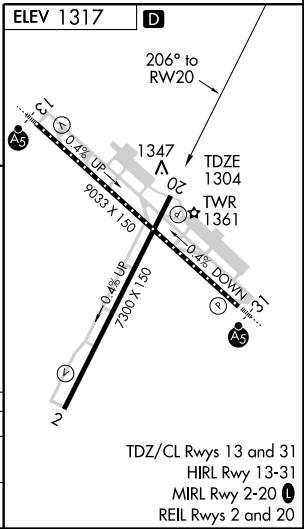
NA ASR GPS or RNP-0.3 required. DME/DME RNP-0.3 NA.	MISSED APPROACH: Climb to 3000 direct RST VOR/DME and hold.
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ATIS <b>120.5</b>	ROCHESTER APP CON ★ <b>119.8 251.125</b>	ROCHESTER TOWER ★ <b>118.3 (CTAF) 257.8</b>	GND CON <b>121.9</b>	UNICOM <b>122.95</b>
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Procedure NA for arrivals at EYATE via V218 southeastbound.



3000 ↑ RST 				
CATEGORY	A	B	C	D
LNAV MDA	1660-1 356 (400-1)			1660-1¼ 356 (400-1¼)
CIRCLING	1720-1 403 (500-1)	1780-1 463 (500-1)	1780-1½ 463 (500-1½)	1880-2 563 (600-2)





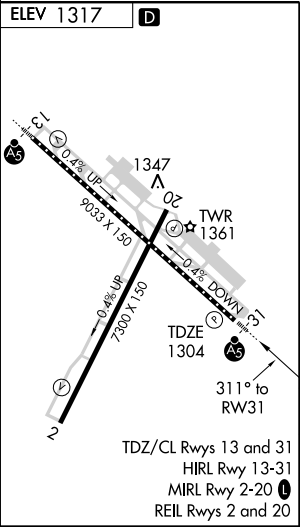
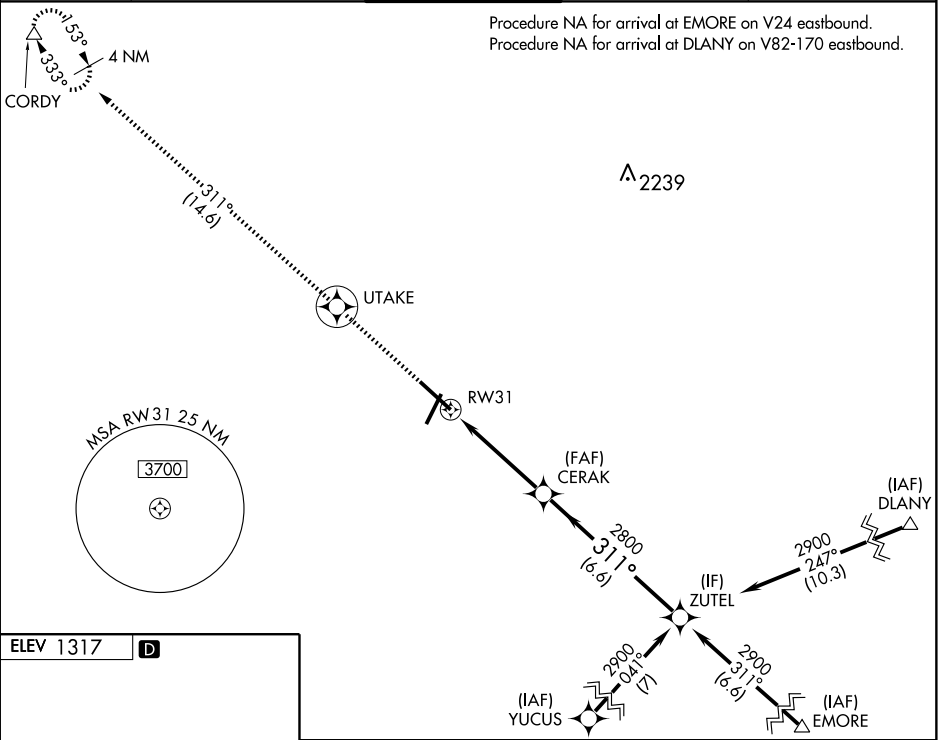
APP CRS	Rwy Idg	9033
311°	TDZE	1304
	Apt Elev	1317

RNAV (GPS) RWY 31

ROCHESTER INTL (RST)

<b>NA</b> ASR	Baro-VNAV NA below -17°C (2°F). GPS or RNP-0.3 required. DME/DME RNP-0.3 NA. For inoperative MALSR increase LNAV/VNAV Cat. D visibility to RVR 5000 and increase LNAV Cat. D visibility to RVR 6000.	MALSR 	MISSED APPROACH: Climb to 3000 direct UTAKE WP and via 311° track to CORDY WP and hold.
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ATIS 120.5	ROCHESTER APP CON* 119.8 251.125	ROCHESTER TOWER* 118.3 (CTAF) 0 257.8	GND CON 121.9	UNICOM 122.95
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3000	UTAKE	311°	CORDY	ZUTEL	Procedure Turn NA
* LNAV only	* 1 NM to RW31				
	1 NM	3.5 NM	6.6 NM		GS 3.00° TCH 50
CATEGORY	A	B	C	D	
GLS PA DA	NA				
LNAV/VNAV MDA	1620/24	316 (400-½)		1620/40 316 (400-¾)	
LNAV MDA	1680/24	376 (400-½)		1680/50 376 (400-1)	
CIRCLING	1720-1 403 (500-1)	1780-1 463 (500-1)	1780-1½ 463 (500-1½)	1880-2 563 (600-2)	

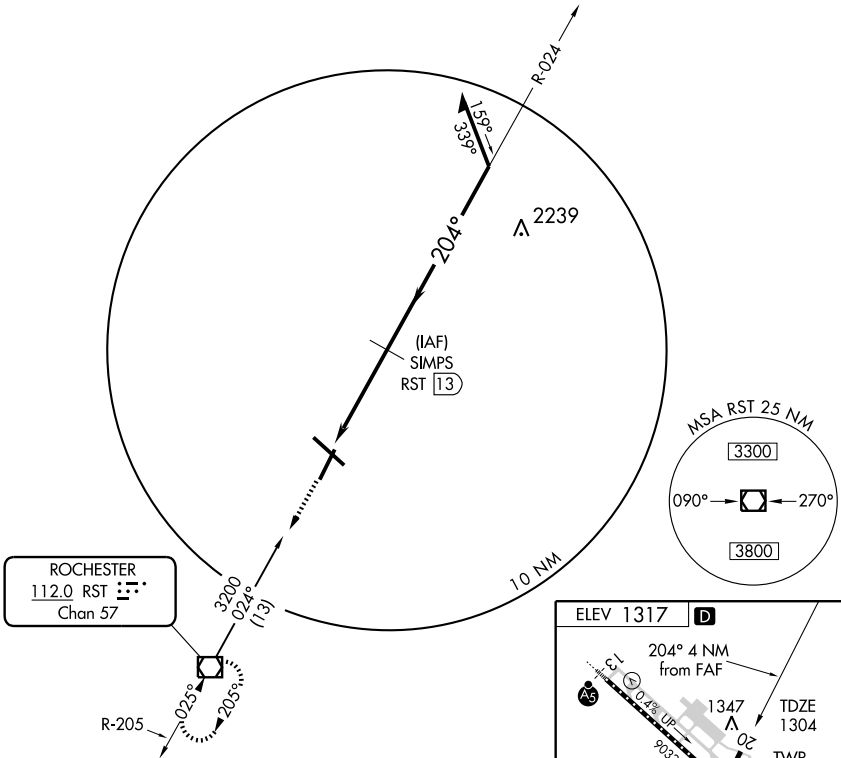
VOR/DME RST	APP CRS	Rwy Idg	7300
112.0	204°	TDZE	1304
Chan 57		Apt Elev	1317


VOR/DME RWY 20  
ROCHESTER INTL (RST)

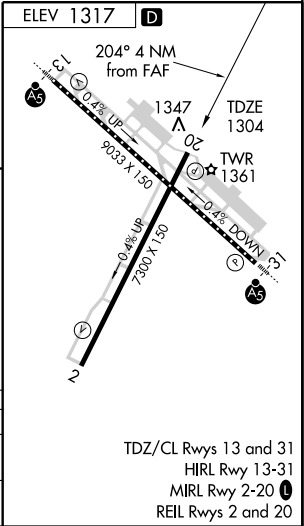
ASR

MISSED APPROACH: Climb to 3000 direct RST VOR/DME and hold.

ATIS 120.5	ROCHESTER APP CON★ 119.8 251.125	ROCHESTER TOWER★ 118.3 (CTAF) 0 257.8	GND CON 121.9	UNICOM 122.95
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3000	RST	SIMPS		Remain within 10 NM
↑		RST 10	RST 13	
112.0				
	RST 9	≤ 3.20° TCH 50	024°	3200
			204°	2700
	1 NM	3 NM		
CATEGORY	A	B	C	D
S-20	1660-1 356 (400-1)			1660-1¼ 356 (400-1¼)
CIRCLING	1720-1 403 (500-1)	1780-1 463 (500-1)	1780-1½ 463 (500-1½)	1880-2 563 (600-2)



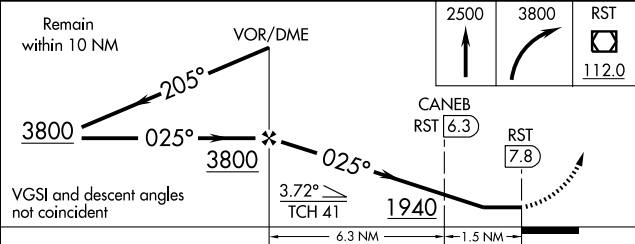
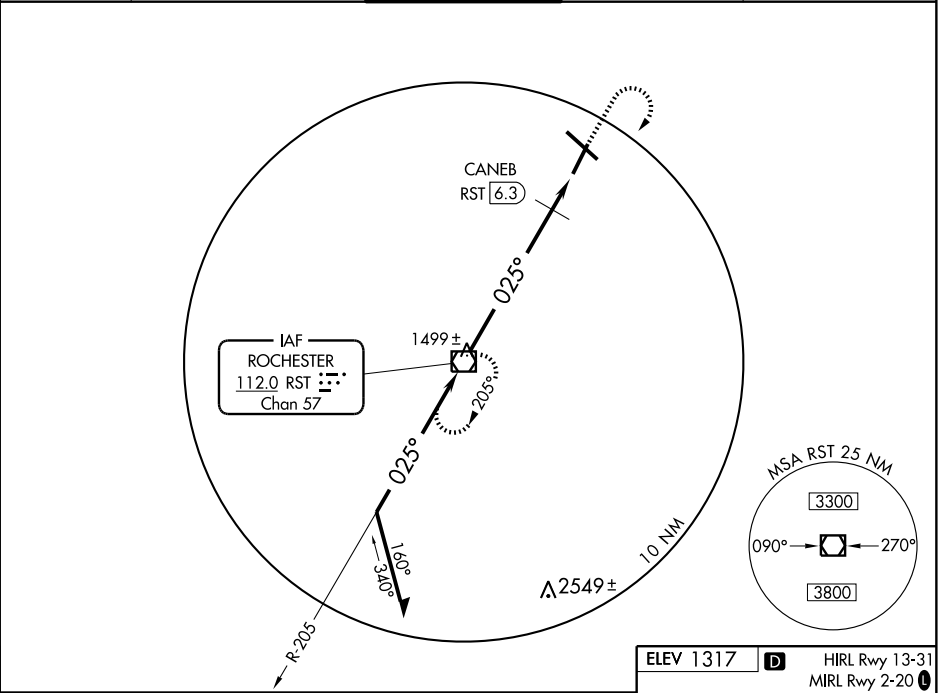
VOR/DME RST <b>112.0</b> Chan <b>57</b>	APP CRS <b>025°</b>	Rwy Idg TDZE Apt Elev	<b>7300</b> <b>1317</b> <b>1317</b>
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VOR RWY 2  
ROCHESTER INTL (RST)

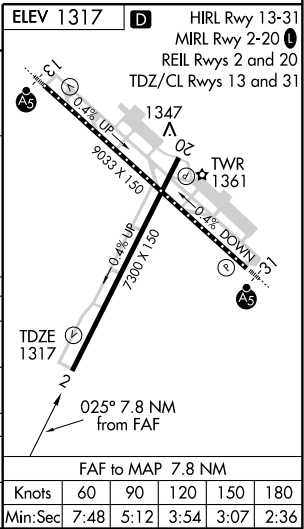
ASR

MISSED APPROACH: Climb to 2500 then climbing right turn to 3800 direct RST VOR/DME and hold.

ATIS <b>120.5</b>	ROCHESTER APP CON ★ <b>119.8 251.125</b>	ROCHESTER TOWER ★ <b>118.3</b> (CTAF) <b>257.8</b>	GND CON <b>121.9</b>	UNICOM <b>122.95</b>
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CATEGORY	A	B	C	D
S-2	1940-1	623 (700-1)	1940-1¾ 623 (700-1¾)	1940-2 623 (700-2)
CIRCLING	1940-1	623 (700-1)	1940-1¾ 623 (700-1¾)	1940-2 623 (700-2)
DME MINIMUMS				
S-2	1680-1 363 (400-1)			NA
CIRCLING	1720-1 403 (500-1)	1780-1 463 (500-1)	1780-1½ 463 (500-1½)	1880-2 563 (600-2)



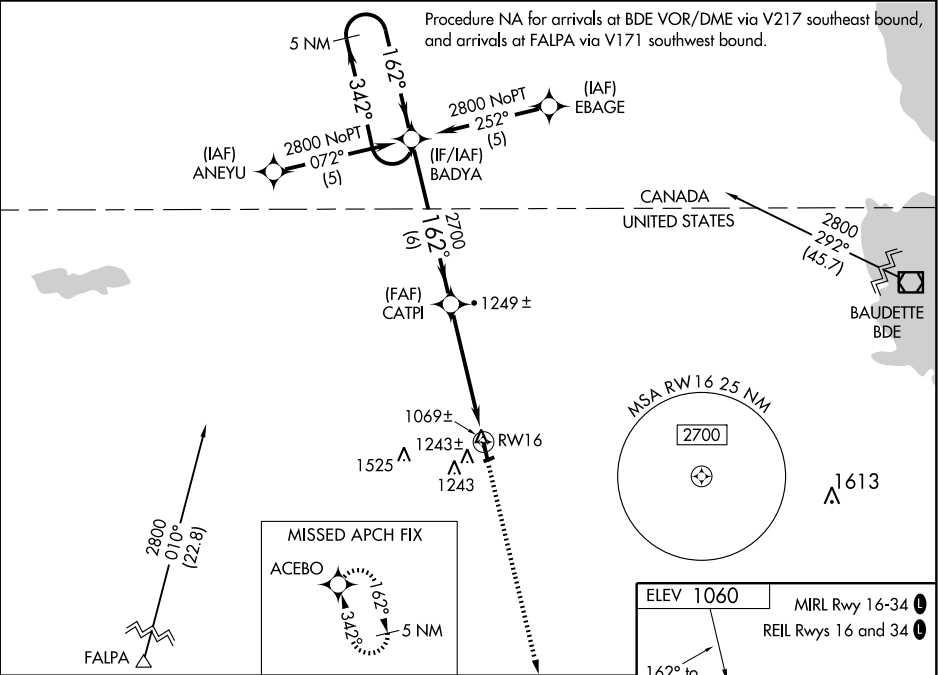
WAAS CH <b>56304</b> <b>W16A</b>	APP CRS <b>162°</b>	Rwy Idg TDZE Apt Elev	<b>4401</b> <b>1055</b> <b>1060</b>
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RNAV (GPS) RWY 16  
ROSEAU MUNI/RUDY BILLBERG FIELD (ROX)

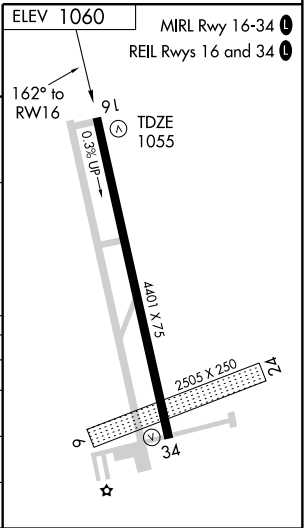
**⚠** If local altimeter setting not received, use Warroad altimeter setting and increase all DAs 36 feet/MDAs 40 feet.  
**⚠** VDP NA when using Warroad altimeter setting.  
**⚠** Baro-VNAV NA when using Warroad altimeter setting.  
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (114°F). DME/DME RNP- 0.3 NA.

MISSED APPROACH: Climb to 2800 direct ACEBO and hold.

AWOS-3 <b>108.8</b>	MINNEAPOLIS CENTER <b>134.75 251.1</b>	UNICOM <b>122.8 (CTAF)</b> <b>0</b>
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5 NM Holding Pattern		BADYA	VGSI and RNAV glidepath not coincident.		2800	ACEBO
2800		← 342°	162° →	162°	2700	*1.3 NM to RW16
GS 3.00° TCH 40		6 NM		3.7 NM	1.3	
CATEGORY	A	B	C	D		
LPV DA	1305-1		250 (300-1)			
LNAV/ VNAV DA	1403-1¼		348 (400-1¼)			
LNAV MDA	1500-1	445 (500-1)	1500-1¼ 445 (500-1¼)	1500-1½ 445 (500-1½)		
CIRCLING	1600-1	540 (600-1)	1600-1½ 540 (600-1½)	1640-2 580 (600-2)		



WAAS CH <b>99404</b> <b>W34A</b>	APP CRS <b>342°</b>	Rwy Idg <b>4401</b> TDZE <b>1060</b> Apt Elev <b>1060</b>
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## RNAV (GPS) RWY 34

ROSEAU MUNI/RUDY BILLBERG FIELD (ROX)

**V** If local altimeter setting not received, use Warroad altimeter setting and increase all DAs 36 feet/MDAs 40 feet.

**A** VDP NA when using Warroad altimeter setting.

**W** Baro-VNAV NA when using Warroad altimeter setting.

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (114°F).

Visibility reduction by helicopters NA. DME/DME RNP- 0.3 NA.

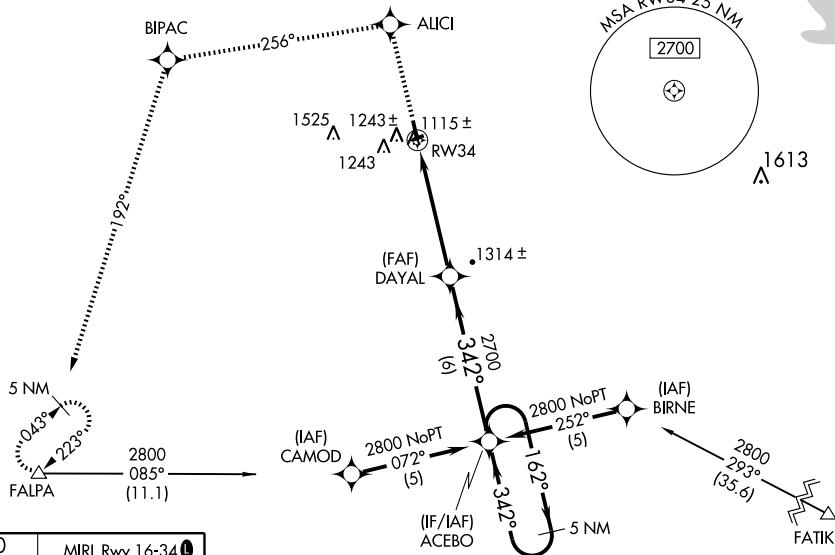
**MISSED APPROACH:** Climb to 2900 direct ALICI and via 256° track to BIPAC and 192° track to FALPA and hold.

AWOS-3  
108.8

MINNEAPOLIS CENTER  
134.75 251.1

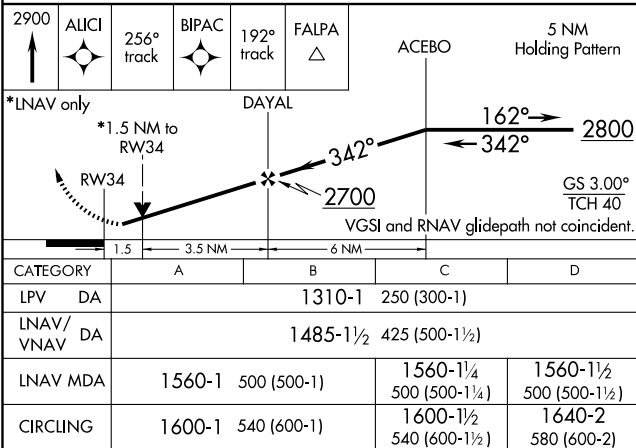
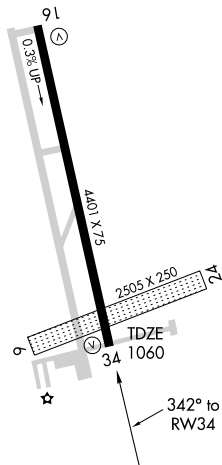
UNICOM  
122.8 (CTAF) 

Procedure NA for arrivals at FALPA via V171 southwest bound.



NC-1. 22 OCT 2009 to 19 NOV 2009

ELEV 1060	MIRL Rwy 16-34 <b>L</b>
	REIL Rwys 16 and 34 <b>L</b>

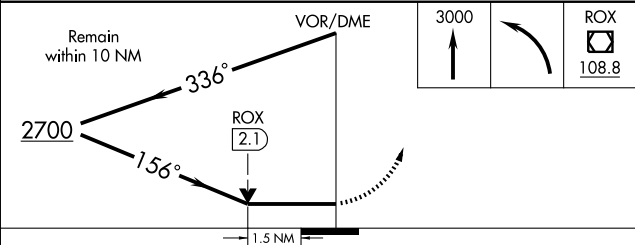
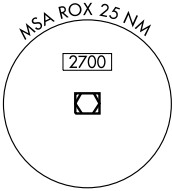
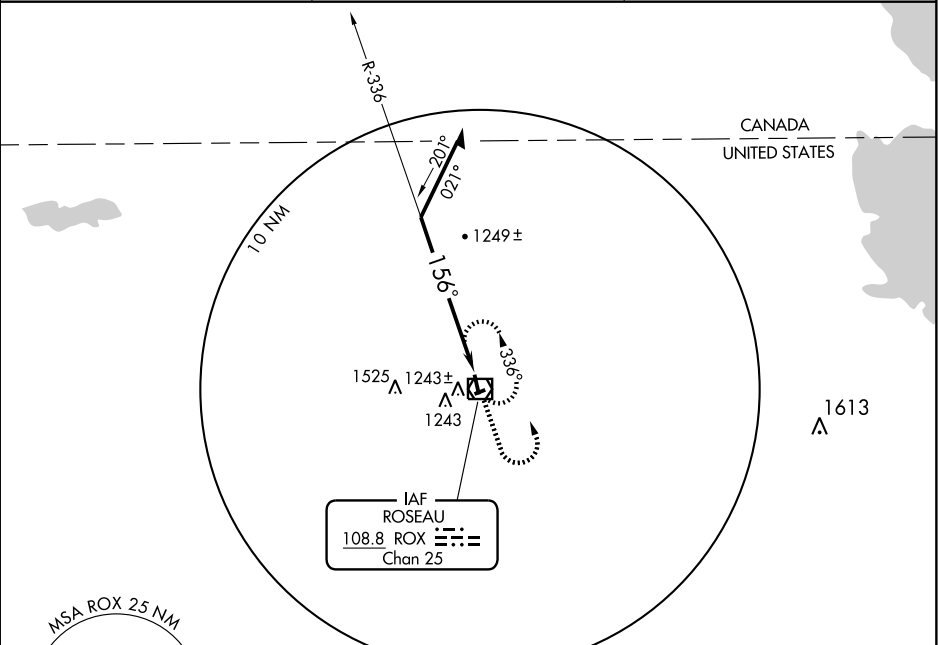


VOR/DME ROX <b>108.8</b> Chan <b>25</b>	APP CRS <b>156°</b>	Rwy Idg TDZE Apt Elev	<b>4401</b> <b>1055</b> <b>1060</b>
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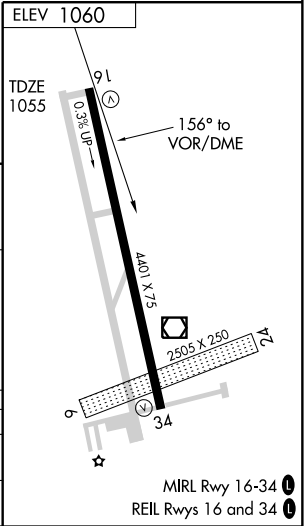
VOR RWY 16  
ROSEAU MUNI/RUDY BILLBERG FIELD (ROX)

<p><b>▼</b> If local altimeter setting not received, use Warroad altimeter setting and increase all MDAs 40 feet.</p> <p><b>▲ NA</b> VDP NA when using Warroad altimeter setting.</p>	<p>MISSED APPROACH: Climb to 3000 then left turn direct ROX VOR/DME and hold.</p>
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AWOS-3 <b>108.8</b>	MINNEAPOLIS CENTER <b>134.75 251.1</b>	UNICOM <b>122.8 (CTAF) 0</b>
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CATEGORY	A	B	C	D
S-16	1560-1	505 (500-1)	1560-1½	505 (500-1½)
CIRCLING	1600-1	540 (600-1)	1600-1½ 540 (600-1½)	1640-2 580 (600-2)



VOR/DME ROX <b>108.8</b> Chan <b>25</b>	APP CRS <b>349°</b>	Rwy Idg <b>4401</b> TDZE <b>1060</b> Apt Elev <b>1060</b>
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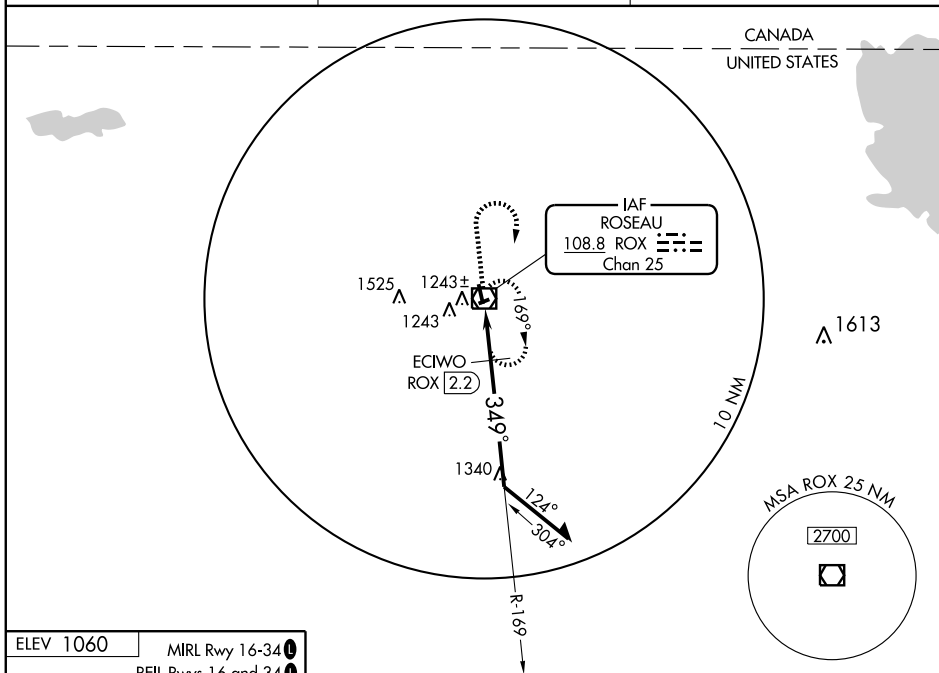
VOR RWY 34  
ROSEAU MUNI/RUDY BILLBERG FIELD (ROX)

<b>T</b>	If local altimeter setting not received, use Warroad altimeter setting and increase all MDAs 40 feet.
<b>A NA</b>	VDP NA when using Warroad altimeter setting. Visibility reduction by helicopters NA.

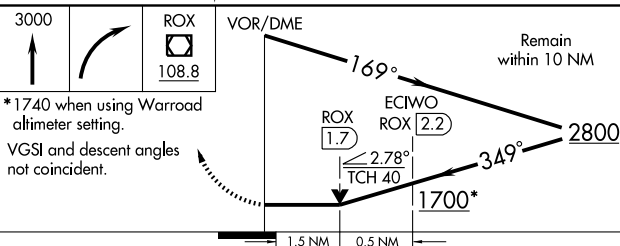
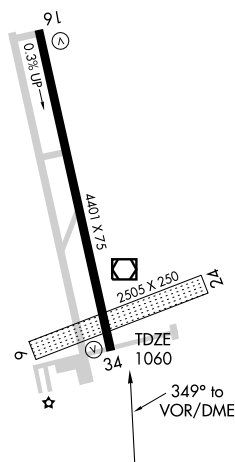
**MISSED APPROACH:** Climb to 3000 then right turn direct ROX VOR/DME and hold.

AWOS-3  
108.8

MINNEAPOLIS CENTER  
134.75 251.1

UNICOM  
122.8 (CTAF) **L**

ELEV 1060	MIRL Rwy 16-34 <b>L</b>
	REIL Rwy 16 and 34 <b>L</b>

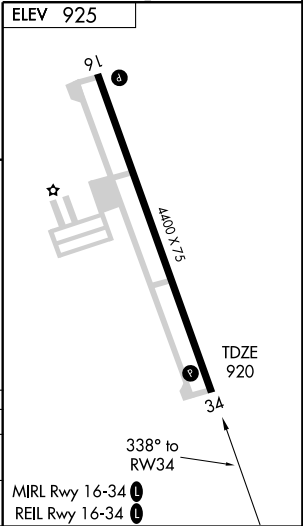
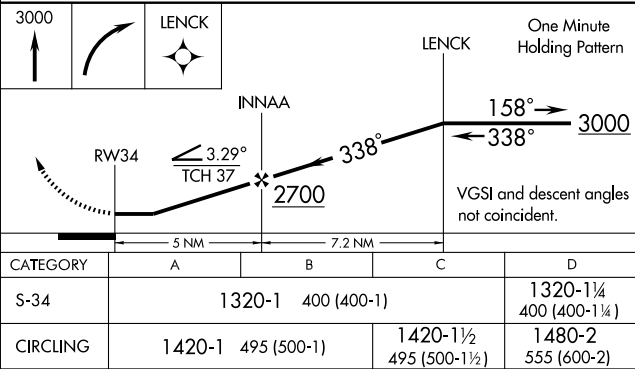
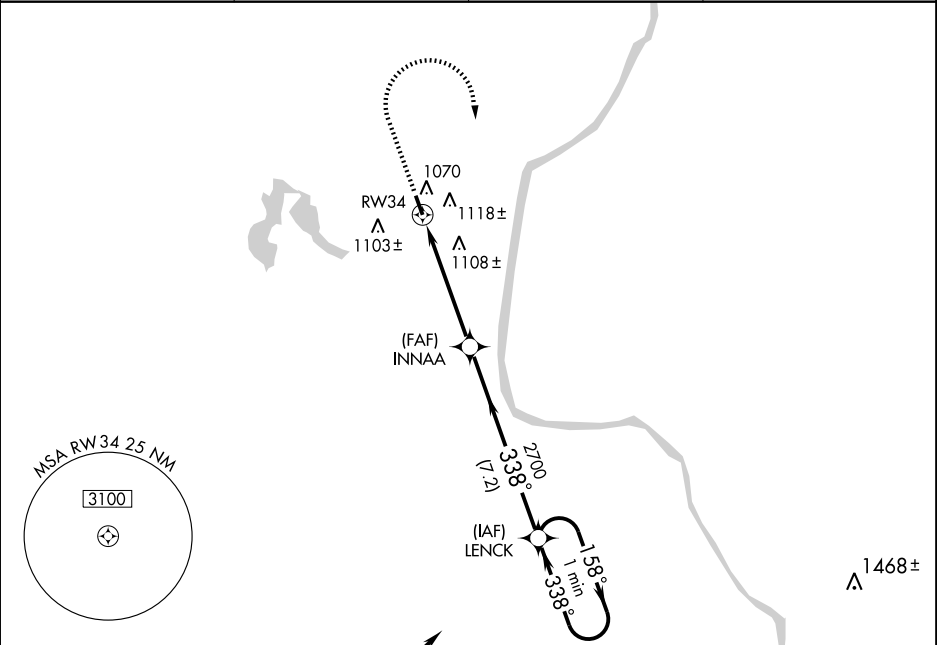


CATEGORY	A	B	C	D
S-34	1700-1	640 (700-1)	1700-1 $\frac{3}{4}$ 640 (700-1 $\frac{3}{4}$ )	1700-2 640 (700-2)
CIRCLING	1700-1	640 (700-1)	1700-1 $\frac{3}{4}$ 640 (700-1 $\frac{3}{4}$ )	1700-2 640 (700-2)
ECIVO FIX MINIMUMS				
S-34	1560-1	500 (500-1)	1560-1 $\frac{1}{4}$ 500 (500-1 $\frac{1}{4}$ )	1560-1 $\frac{1}{2}$ 500 (500-1 $\frac{1}{2}$ )
CIRCLING	1600-1	540 (600-1)	1600-1 $\frac{1}{2}$ 540 (600-1 $\frac{1}{2}$ )	1640-2 580 (600-2)

GPS RWY 34  
RUSH CITY RGNL (ROS)

APP CRS 338°	Rwy Idg TDZE Apt Elev	4400 920 925
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NA		MISSED APPROACH: Climb to 3000, then right turn direct LENCK WP and hold.	
AWOS-3 282	MINNEAPOLIS CENTER 121.05 397.9	GCO 121.725	CTAF 122.9







APP CRS	Rwy Idg	3200
341°	TDZE	1209
	Apt Elev	1211

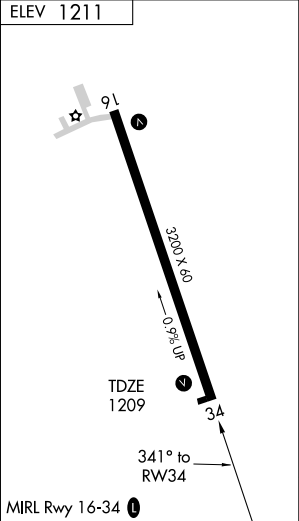
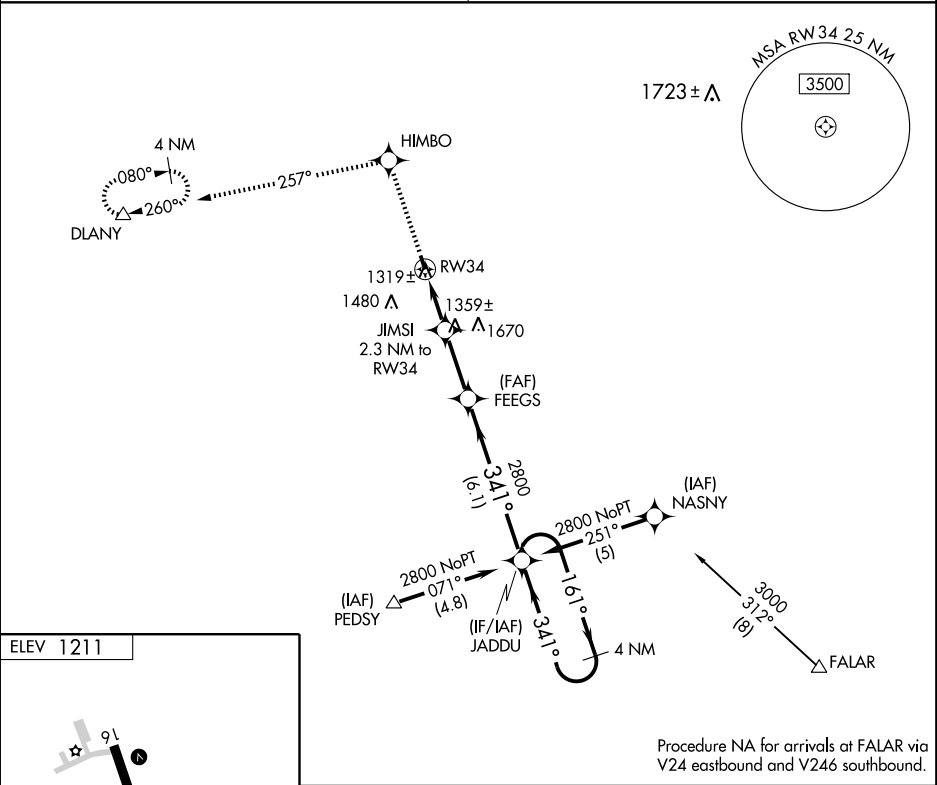
# RNAV (GPS) RWY 34

RUSHFORD MUNI (55Y)

**NA** DME/DME RNP-0.3 NA  
Visibility reduction by helicopters NA.  
Use Preston altimeter setting, when not received use Winona altimeter setting and increase all MDA 80 feet.

MISSED APPROACH: Climb to 3000 direct HIMBO and via 257° track to DLANY and hold.

ROCHESTER APP CON ★ 119.8 251.125	CTAF 122.9
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3000	HIMBO	257° track	DLANY	FEEGS	JADDU	4 NM Holding Pattern
↑	✧	△	✧	✧	✧	✧
<p>JIMSI 2.3 NM to RW34</p> <p>RW34 3.04° TCH 40</p> <p>1960</p> <p>2800 341° 161° 2800</p> <p>2.3 NM 2.6 NM 6.1 NM</p>						
CATEGORY	A	B	C	D		
LNAV MDA	1620-1	411 (500-1)	1620-1¼ 411 (500-1¼)	NA		
CIRCLING	1720-1	509 (600-1)	1720-1½ 509 (600-1½)	NA		

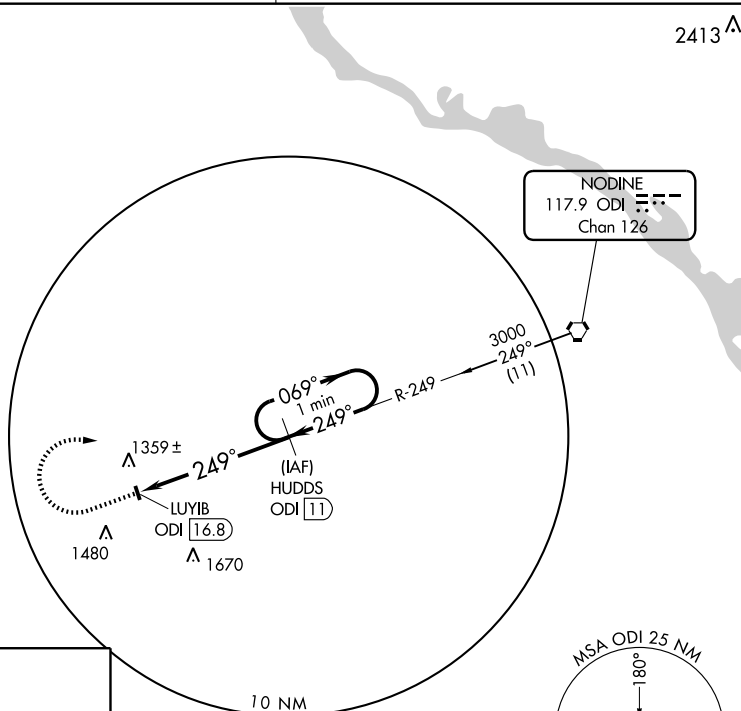
VORTAC ODI <b>117.9</b> Chan <b>126</b>	APP CRS <b>249°</b>	Rwy Idg <b>N/A</b> TDZE <b>N/A</b> Apt Elev <b>1211</b>
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VOR/DME-A  
RUSHFORD MUNI (55Y)

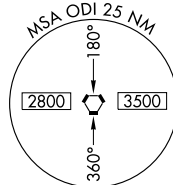
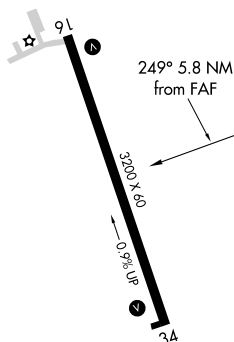
**T** Use Preston altimeter setting, when not received use  
**A** NA Winona altimeter setting and increase all MDA 80 feet.

**MISSED APPROACH:** Climb to 2000, then climbing right turn to 3000 via ODI VORTAC R-249 to HUDDS/ODI 11 DME and hold.

ROCHESTER APP CON ★  
119.8 251.125

CTAF  
122.9 **L**

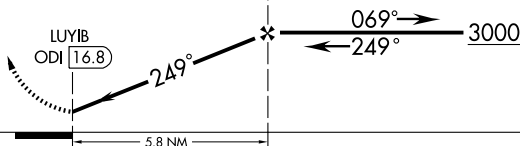
ELEV 1211



2000 ↑	3000 ↘ ODI R-249	HUDDS ODI 11
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HUDDS  
ODI 11

One Minute  
Holding Pattern



MIRL Rwy 16-34 L

NC-1. 22 OCT 2009 to 19 NOV 2009

APP CRS	Rwy Idg	<b>3300</b>
<b>327°</b>	TDZE	<b>1234</b>
	Apt Elev	<b>1244</b>

## GPS RWY 32

SAUK CENTRE MUNI (D39)

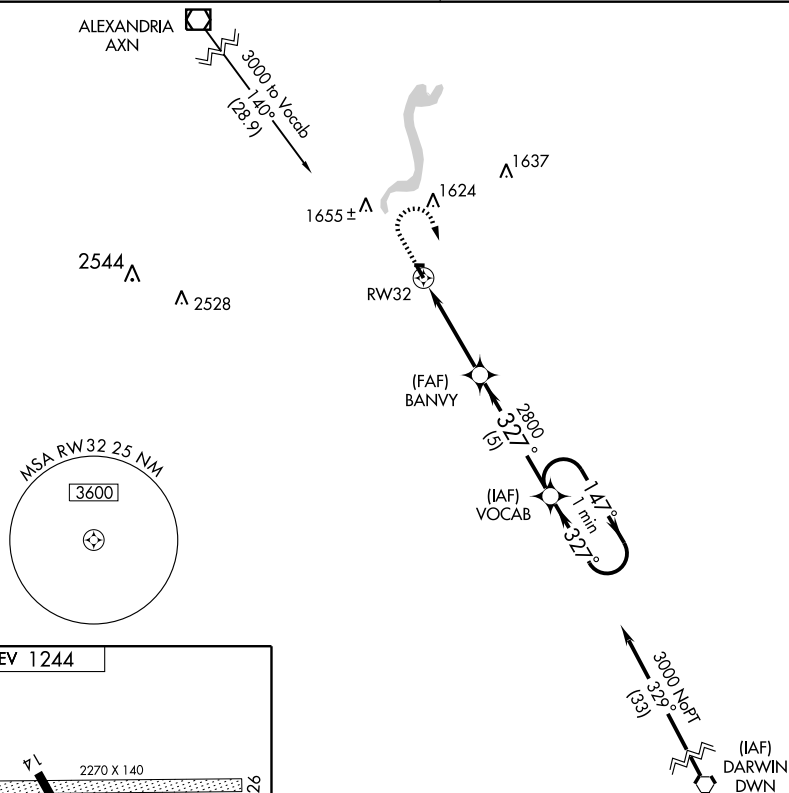
ANA

Use Alexandria Chandler Field altimeter setting.

**MISSED APPROACH:** Climb to 2500 then climbing right turn to 3000 direct VOCAB WP and hold.

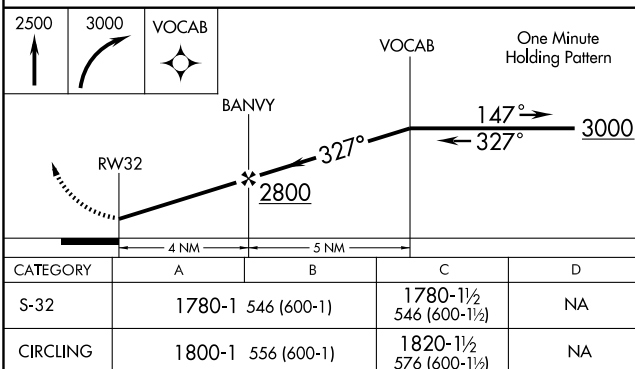
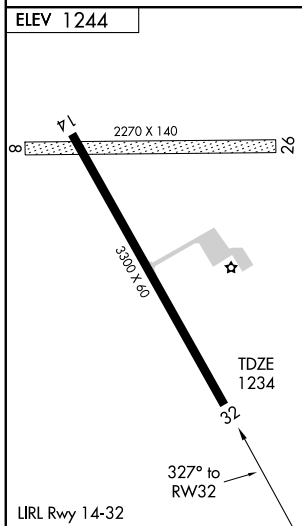
MINNEAPOLIS CENTER  
126.1 269.2

CTAF  
122.9



NC-1. 22 OCT 2009 to 19 NOV 2009

ELEV 1244

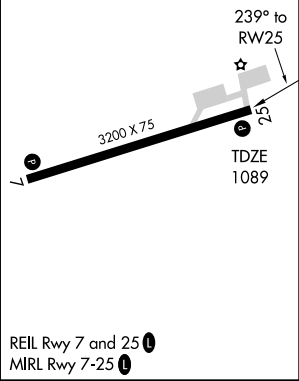
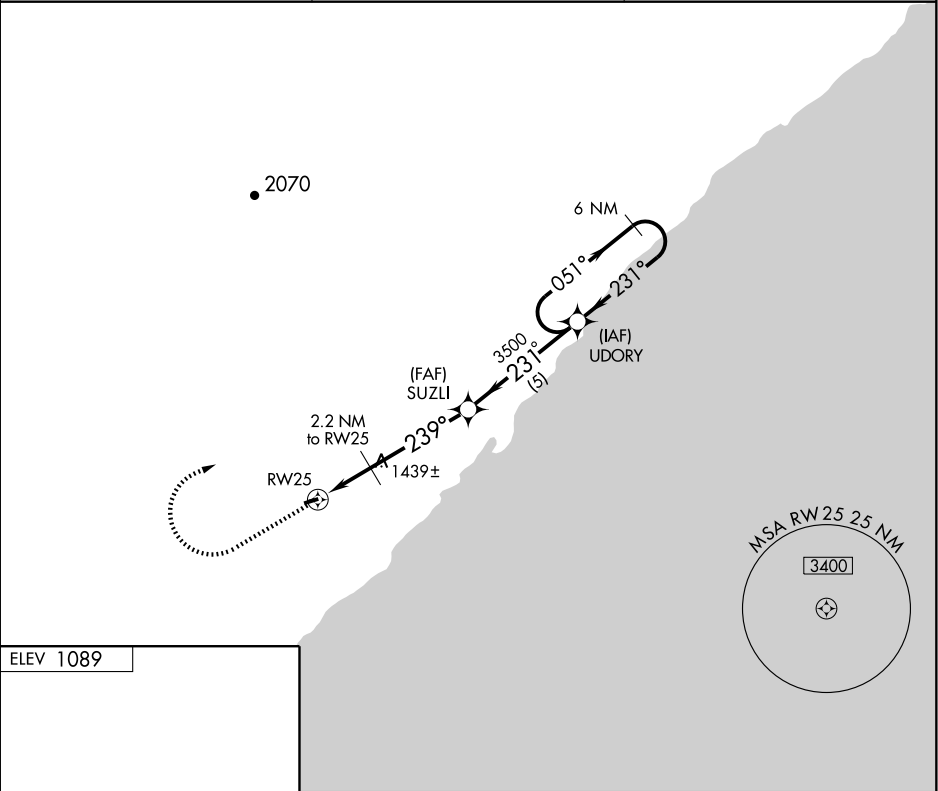


▽

▲ NA

MISSED APPROACH: Climb to 2000 then climbing right turn to 5000 direct UDORY WP and hold.

AWOS-3 350	MINNEAPOLIS CENTER 134.55 290.5	CTAF 122.9 0
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2000

5000

UDORY

2.2 NM to RW25

SUZLI

UDORY

6 NM Holding Pattern

RW25

239°

231°

051°

5000

3500

1940

2.2

4 NM

5 NM

CATEGORY	A	B	C	D
S-25	1540-1	451 (500-1)	NA	
CIRCLING	1700-1 611 (700-1)	1720-1 631 (700-1)	NA	

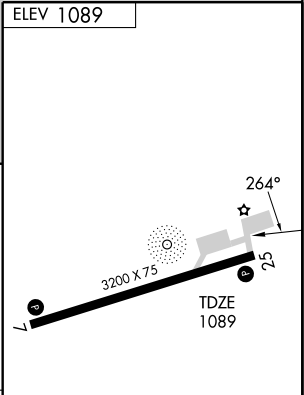
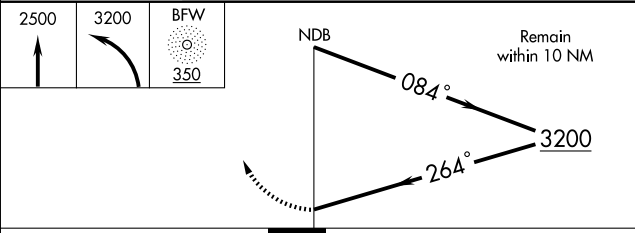
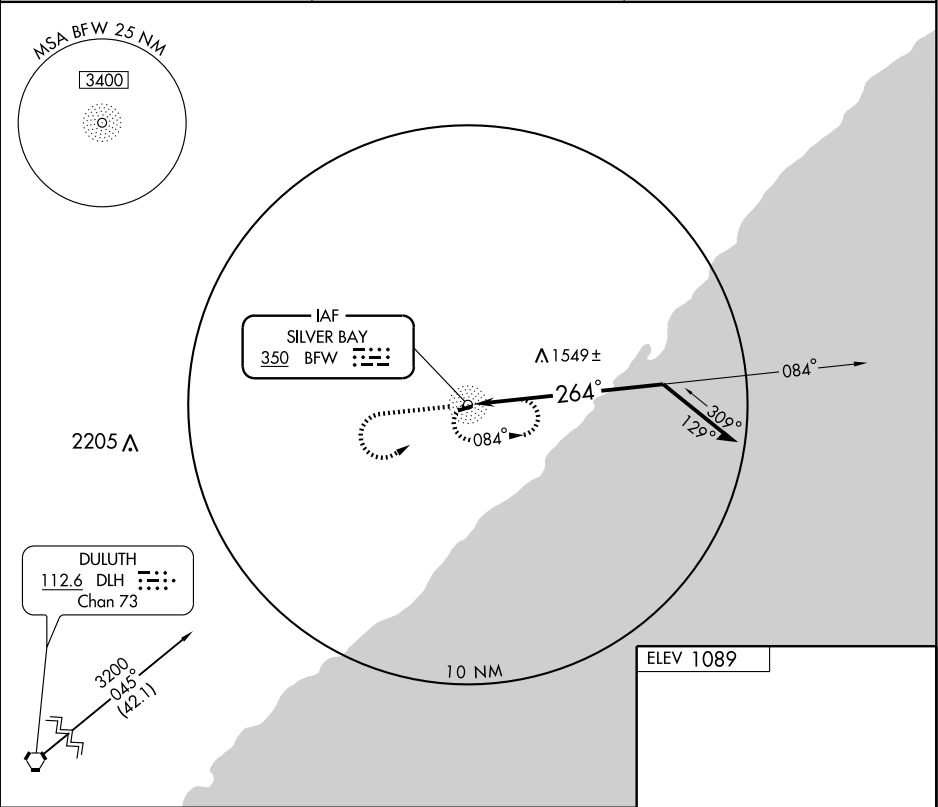
NDB BFW	APP CRS	Rwy Idg	3200
350	264°	TDZE	1089
		Apt Elev	1089

NDB RWY 25  
SILVER BAY MUNI (BFW)

NA

MISSED APPROACH: Climb to 2500 then climbing left turn to 3200 direct BFW NDB and hold.

AWOS-3 350	MINNEAPOLIS CENTER 134.55 290.5	CTAF 122.9
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CATEGORY	A	B	C	D
S-25	1900-1 811 (900-1)	1900-1¼ 811 (900-1¼)	NA	
CIRCLING	1900-1 811 (900-1)	1900-1¼ 811 (900-1¼)	NA	

REIL Rwy 7 and 25

MIRL Rwy 7-25

APP CRS  
356°

Rwy Idg  
TDZE  
Apt Elev

3005  
1623  
1623

GPS RWY 35

SLAYTON MUNI (DVP)

▲ NA

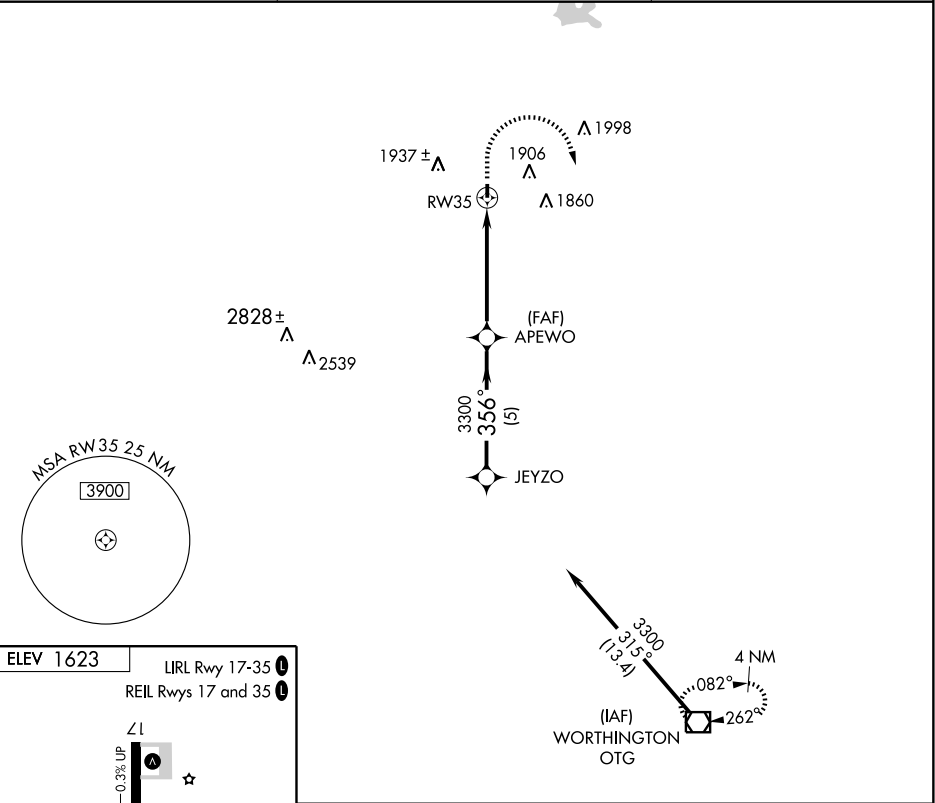
Use Worthington altimeter setting.

MISSED APPROACH: Climb to 3300, then right turn direct OTG VOR/DME and hold.

AWOS-3  
118.55

MINNEAPOLIS CENTER  
132.05 317.4

CTAF  
122.9



ELEV 1623

LIRL Rwy 17-35  
REIL Rwys 17 and 35

35

356° to RW35

3005 X 60

TDZE 1623

35

JEYZO

APEWO

3300

356°

3300

356°

RW35

5 NM

5 NM

CATEGORY	A	B	C	D
S-35	2080-1	457 (500-1)	NA	
CIRCLING	2180-1 557 (600-1)	2220-1 597 (600-1)	NA	





LOC/DME I-SGS <b>108.35</b> Chan <b>20</b> (Y)	APP CRS <b>339°</b>	Rwy Idg TDZE Apt Elev <b>4001</b> <b>819</b> <b>820</b>
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## LOC RWY 34

SOUTH ST. PAUL MUNI-RICHARD E. FLEMING FIELD (SGS)

**NA** When local altimeter setting not received, use Minneapolis-St. Paul Int'l/Wold-Chamberlain altimeter setting and increase all MDAs 40 feet; and all visibilities  $\frac{1}{4}$  mile.

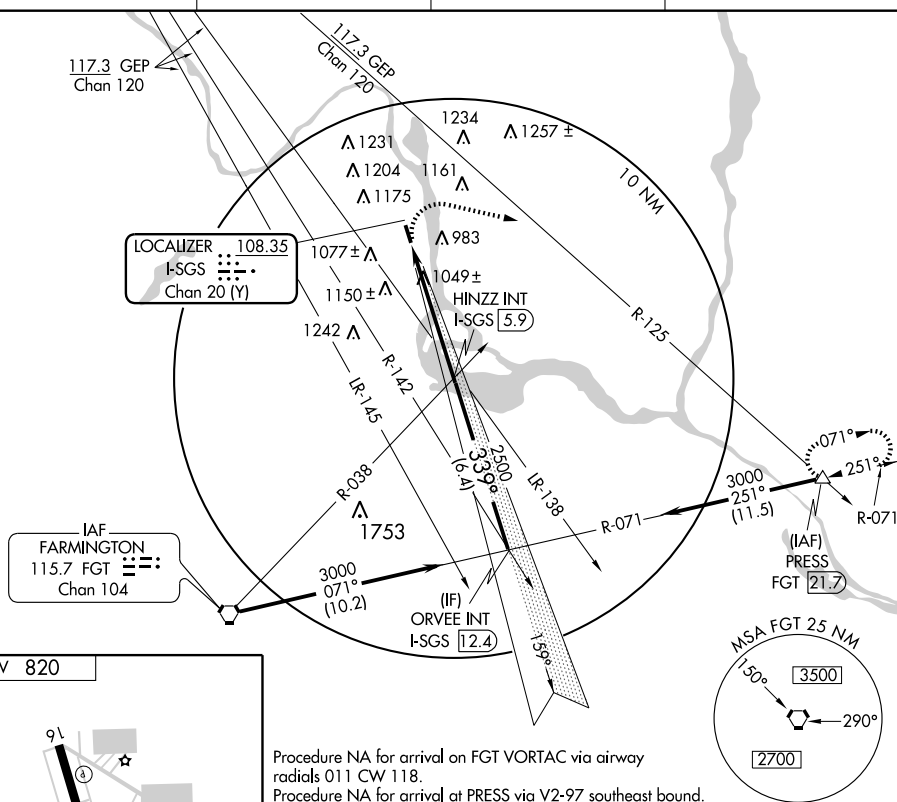
**MISSED APPROACH:** Climbing right turn to 3000 via heading 100° and GEP VORTAC R-125 to PRESS Int'/FGT 21.7 DME and hold.

AWOS-3  
**119.425**

MINNEAPOLIS APP CON  
**121.2 335.5**

CLNC DEL  
**118.2**

UNICOM  
**122.7** (CTAF) **0**

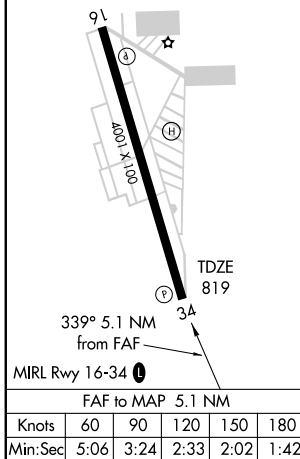


Procedure NA for arrival on FGT VORTAC via airway radials 011 CW 118.

Procedure NA for arrival at PRESS via V2-97 southeast bound.

	3000 100°	GEP R-125 117.3	PRESS △	HINZZ INT I-SGS 5.9	ORVEE INT I-SGS 12.4	3000	Procedure Turn NA
		I-SGS 0.8	I-SGS 2.2	2500	339°		
		1.4 NM	3.7 NM	6.4 NM			
CATEGORY	A	B	C	D			
S-34	1300-1	481 (500-1)	1300-1½ 481 (500-1½)	1300-1½ 481 (500-1½)			
CIRCLING	1300-1 480 (500-1)	1420-1 600 (600-1)	1540-2 720 (800-2)	1540-2½ 720 (800-2½)			

ELEV 820



TDZE 819  
339° 5.1 NM from FAF  
MIRL Rwy 16-34 **0**

FAF to MAP 5.1 NM

Knots	60	90	120	150	180
Min:Sec	5:06	3:24	2:33	2:02	1:42

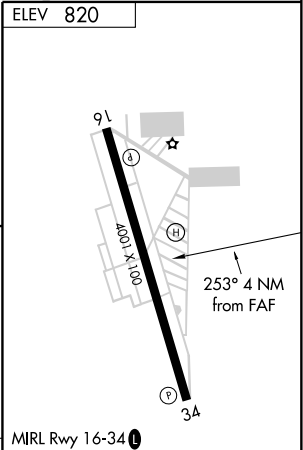
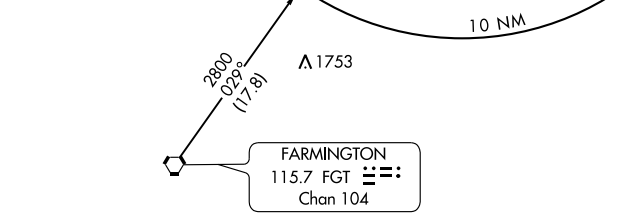
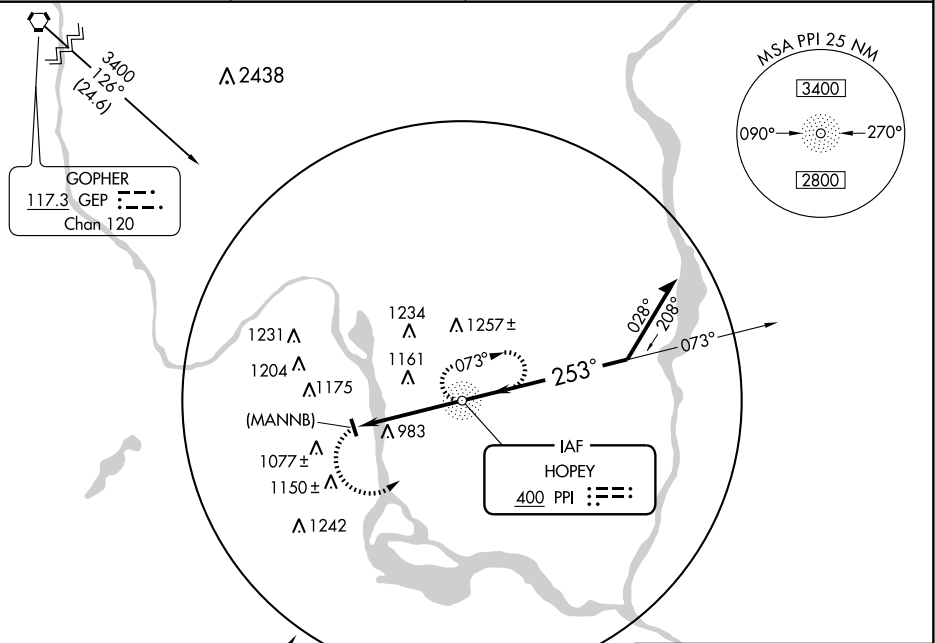
NDB PPI <b>400</b>	APP CRS <b>253°</b>	Rwy Idg TDZE Apt Elev	N/A N/A <b>820</b>
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NDB or GPS-B

SOUTH ST. PAUL MUNI-RICHARD E. FLEMING FIELD (SGS)

			MISSED APPROACH: Climbing left turn to 2600 direct PPI NDB and hold.
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AWOS-3 <b>119.425</b>	MINNEAPOLIS APP CON <b>121.2 335.5</b>	CLNC DEL <b>118.2</b>	UNICOM <b>122.7</b> (CTAF) <b>0</b>
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2600	PPI <b>400</b>	NDB	Remain within 10 NM
(MANNB)	2600	253°	073°
4 NM			

CATEGORY	A	B	C	D	FAF to MAP 4 NM					
CIRCLING	1480-1	660 (700-1)	1480-1½ 660 (700-1½)	1480-2 660 (700-2)	Knots	60	90	120	150	180
					Min:Sec	4:00	2:40	2:00	1:36	1:20

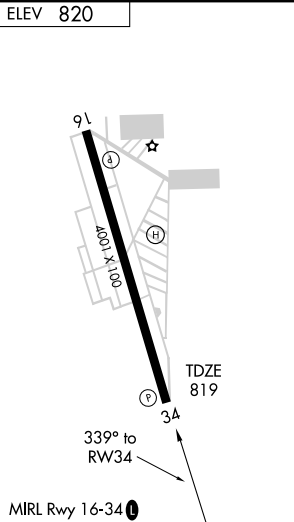
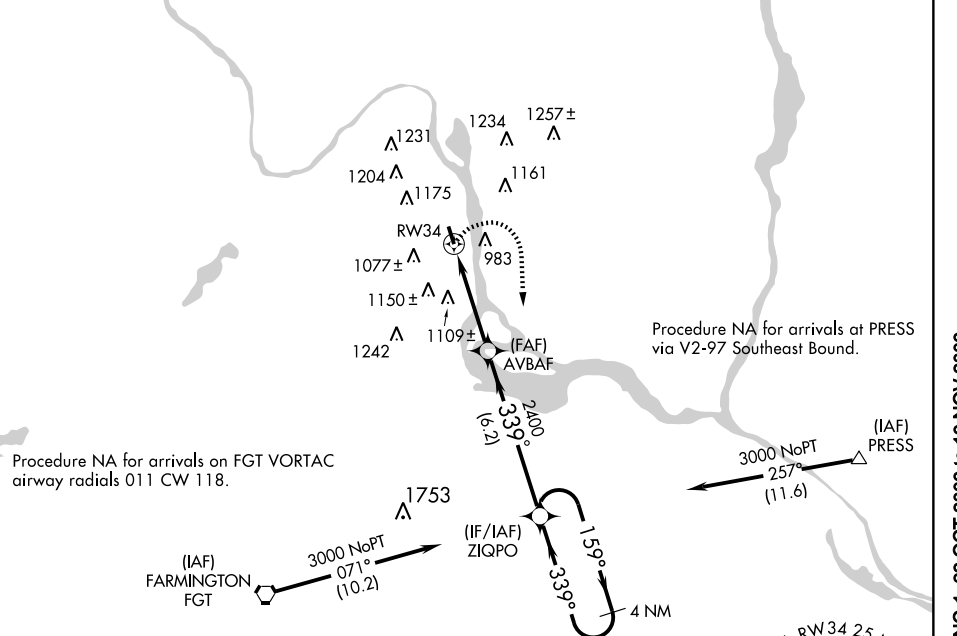
APP CRS	Rwy Idg	4001
339°	TDZE	819
	Apt Elev	820

**▼** DME/DME RNP-0.3 NA. When local altimeter setting not received, use Minneapolis-St Paul Intl altimeter setting and increase all MDA 40 feet and increase Circling Cats. C and D visibility ¼ mile. VDP NA with Minneapolis-St Paul Intl altimeter setting.

**▲**

MISSED APPROACH: Climbing right turn to 3000 direct ZIQPO and hold.

AWOS-3 119.425	MINNEAPOLIS APP CON 121.2 335.5	CLNC DEL 118.2	UNICOM 122.7 (CTAF) <b>1</b>
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CATEGORY	A		B		C		D	
	1340-1		521 (600-1)		1340-1½ 521 (600-1½)		1340-1¾ 521 (600-1¾)	
CIRCLING	1400-1		580 (600-1)		1540-2 720 (800-2)		1540-2¼ 720 (800-2¼)	

VOR/DME RWF <b>113.3</b> Chan <b>80</b>	APP CRS <b>152°</b>	Rwy Idg <b>3400</b> TDZE <b>1072</b> Apt Elev <b>1072</b>
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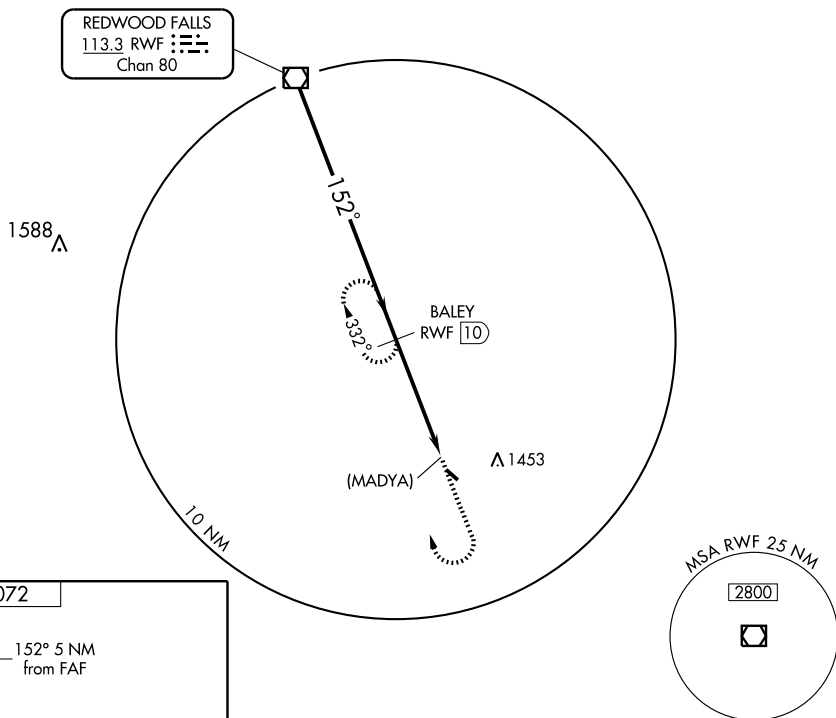
VOR/DME or GPS RWY 13  
SPRINGFIELD MUNI (D42)

**A** NA Use Redwood Falls, MN altimeter setting.

**MISSED APPROACH:** Climb to 2000 then climbing right turn to 2600 via RWF R-152 to BALEY 10 DME and hold.

MINNEAPOLIS CENTER  
127.1 290.2

UNICOM  
122.8 (CTAF) **L**



ELEV 1072

152° 5 NM  
from FAF

TDZE  
1072

100 x 75

MIRL Rwy 13-31 **L**REIL Rwy 13-31 **L**

VOR/DME 2600

152°

2600

Procedure Turn NA

10 NM

3.3 NM

1.2 NM

0.5 NM

BAILEY R-152 10

MADYA R-152 14.5

R-152

2000

2600

BAILEY R-152 10

CATEGORY	A	B	C	D
S-13	1620-1	548 (600-1)	1620-1½ 548 (600-1½)	NA
CIRCLING	1620-1 548 (600-1)	1820-1¼ 748 (800-1¼)	1820-2¼ 748 (800-2¼)	NA

# AIRPORT DIAGRAM

AL-5799 (FAA)

ST. CLOUD RGNL (STC)  
ST. CLOUD, MINNESOTA

ATIS  
119.375  
ST. CLOUD TOWER ★  
118.25  
GND CON  
123.75

D

FIELD  
ELEV  
1031

VAR 2.0° E

JANUARY 2005  
ANNUAL RATE OF CHANGE  
0.1° W

45°33'N

AIRLINE  
TERMINAL

RWY 5-23  
S50, D75, ST95  
RWY 13-31  
S75, D175, ST175, DT280



CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.  
REDBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.

94°04'W

94°03'W

45°32'N

NC-1, 22 OCT 2009 to 19 NOV 2009

	<p>Circling to Rwy 5-23 NA at night. DME from STC VOR/DME. Simultaneous reception of I-BPM and STC DME required. DME required. When local altimeter setting not received, use Little Falls altimeter setting and increase DA to 1307 and all MDAs 80 feet. Increase S-LOC 13 Cats C/D and Circling Cats C/D visibility ¼ mile. For inoperative MALSR when using Little Falls altimeter setting, increase S-LSL 13 all Cats visibility ½ mile.</p>	<div data-bbox="659 120 750 125" style="display: inline-block; vertical-align: middle;"> <p>MALSR</p>  </div> <div data-bbox="760 120 985 128" style="display: inline-block; vertical-align: middle;"> <p>MISSED APPROACH: Climb to 2500 then climbing left turn to 5000 direct STC VOR/DME and via STC VOR/DME R-312 to SIYON/AXN VOR/DME 41.6 DME and hold.</p> </div>
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ALEXANDRIA  
112.8 AXN  
Chan 75

(IF/IAF)  
SIYON  
AXN [41.6]

Holding not required at SIYON  
via V510 Eastbound.

MSA STC 25 NM  
3500

R-103  
2800  
133°  
(8.7)

STC R-312

OSACA  
STC [5.8]

1498 Δ

1508 Δ

Δ 1530

1376

1316 Δ

1336 ±

LOCALIZER 111.9  
I-BPM

ST.CLOUD  
112.1 STC  
Chan 58

DME REQUIRED

ALTERNATE  
MISSED APCH FIX

097°

Procedure  
Turn NA

SIYON  
AXN 41.6

5000

133°

OSACA  
STC 5.8

2800

2800

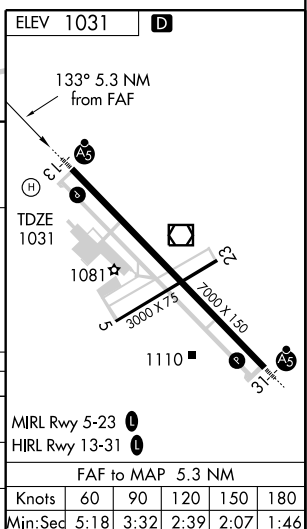
8.7 NM



5.3 NM

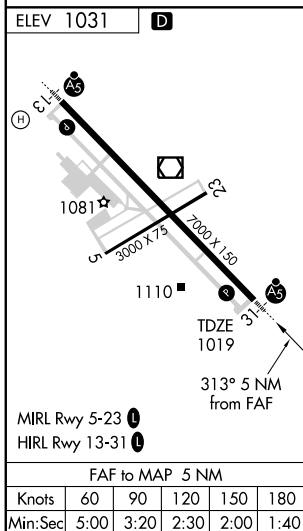
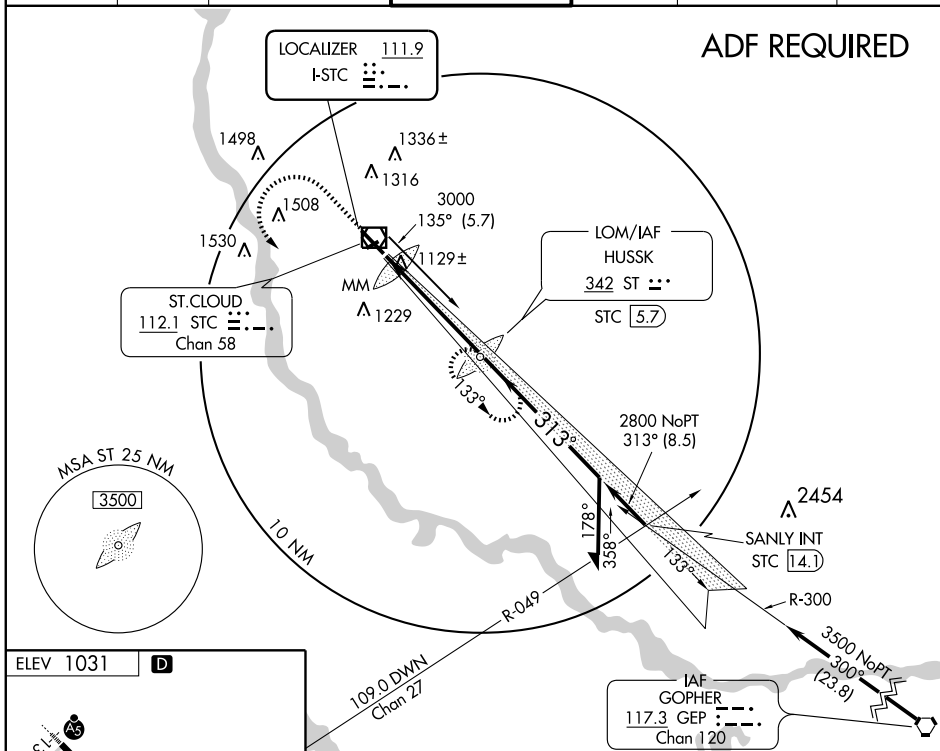
STC 0.5

050

CATEGORY	A	B	C	D
S-ILS 13	1231-½ 200 (200-½)			
S-LOC 13	1680-½ 649 (700-½)		1680-1¼ 649 (700-1¼)	1680-1½ 649 (700-1½)
CIRCLING	1680-1 649 (700-1)		1680-1¾ 649 (700-1¾)	1680-2 649 (700-2)



 <b>NA</b> When local altimeter setting not received, use Little Falls altimeter setting and increase all DA 76 feet and all MDA 80 feet.		 <b>MALS R</b>	<b>MISSED APPROACH:</b> Climb to 3000, then left turn direct HUSSK LOM and hold.			
<b>ATIS</b> <b>119.375</b>	<b>ASOS</b> <b>112.1</b>	<b>MINNEAPOLIS CENTER</b> <b>121.05 397.9</b>	<b>ST. CLOUD TOWER ★</b> <b>118.25 (CTAF) 0</b>	<b>GND CON</b> <b>123.75</b>	<b>PRINCETON RADIO</b> <b>122.5</b>	<b>UNICOM</b> <b>123.5</b>



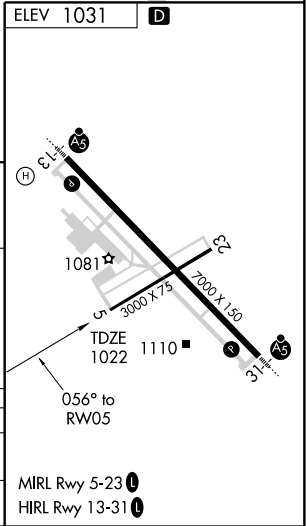
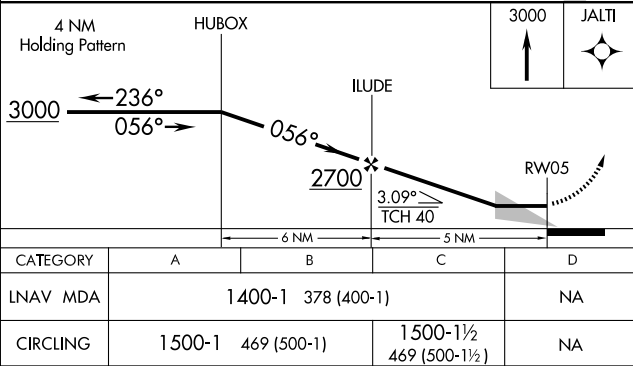
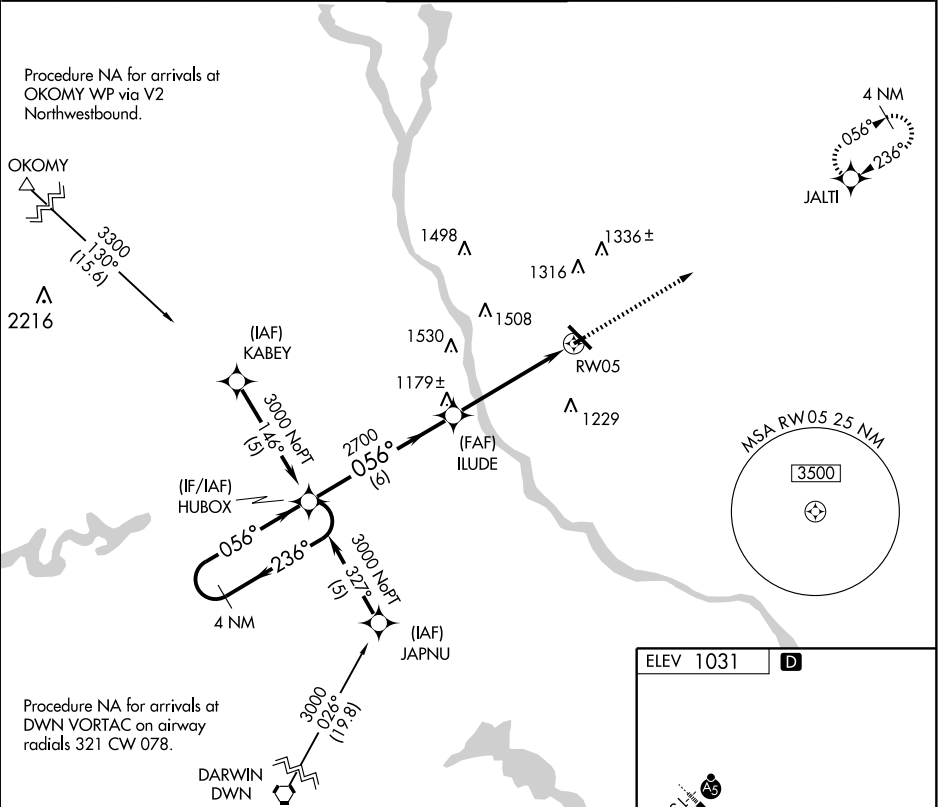
<div>3000 ↑</div>		<div>↶</div>	<div>ST ○ 342</div>	<div>LOM STC 5.7</div>		<div>Remain within 10 NM</div>	
<div>STC 0.7</div>		<div>2705</div>		<div>133°</div>		<div>3000</div>	
<div>MM</div>		<div>313°</div>		<div>2800</div>		<div>GS 3.00° TCH 60</div>	
<div>0.5</div>		<div>4.5 NM</div>					
CATEGORY	A		B		C		D
S-ILS 31			1219-½ 200 (200-½)				
S-LOC 31			1380-½ 361 (400-½)				1380-¾ 361 (400-¾)
CIRCLING	1500-1 469 (500-1)		1500-1½ 469 (500-1½)		1620-2 590 (600-2)		

APP CRS	Rwy Idg	3000
056°	TDZE	1022
	Apt Elev	1031

# RNAV (GPS) RWY 5

ST. CLOUD RGNL (STC)

<b>A</b> When local altimeter setting not recieved, use Little Falls altimeter setting and increase all MDA 80 feet and LNAV Cat C visibility ¼ mile. Visibility reduction by helicopters NA. DME/DME RNP-0.3 NA.				MISSED APPROACH: Climb to 3000 direct JALTI WP and hold.		
ATIS	ASOS	MINNEAPOLIS CENTER	ST. CLOUD TOWER ★	GND CON	PRINCETON RADIO	UNICOM
119.375	112.1	121.05 397.9	118.25 (CTAF) 0	123.75	122.5	123.5





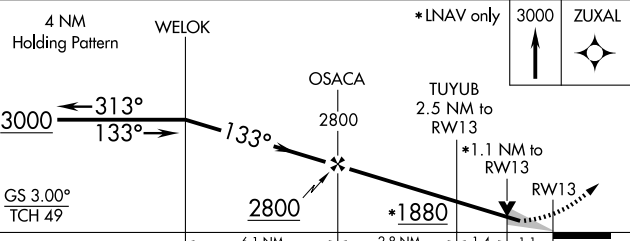
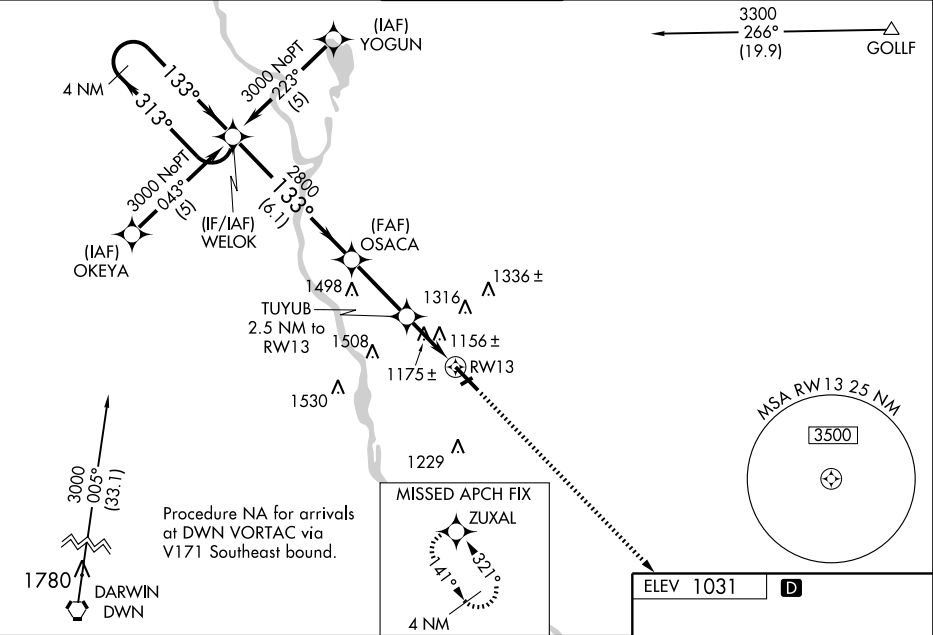
WAAS CH <b>82013</b> <b>W13A</b>	APP CRS <b>133°</b>	Rwy Idg TDZE Apt Elev <b>7000</b> <b>1031</b> <b>1031</b>
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For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 47°C (116°F). DME/DME RNP-0.3 NA. VDP and Baro-VNAV NA when using Little Falls altimeter setting. When local altimeter setting not received, use Little Falls altimeter setting and increase all DA 76 feet and all MDA 80 feet. Increase LNAV/ VNAV visibility ¼ mile all Cats. Circling to Rwy 5-23 NA at night. For inoperative MALS, increase LNAV Cat D visibility ¼ mile. For inoperative MALS, increase LNAV Cat D visibility ¼ mile. For inoperative MALS when using Little Falls altimeter setting, increase LPV all Cats visibility ½ mile.

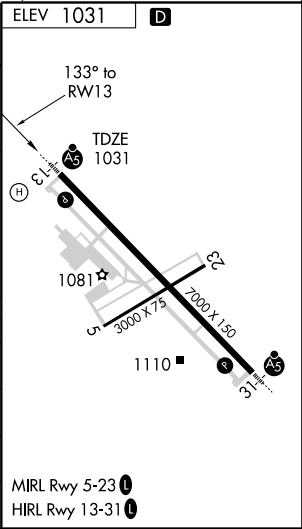
MALS

MISSED APPROACH:  
Climb to 3000 direct ZUXAL and hold.

ATIS <b>119.375</b>	ASOS <b>112.1</b>	MINNEAPOLIS CENTER <b>121.05 397.9</b>	ST. CLOUD TOWER ★ <b>118.25 (CTAF)</b>	GND CON <b>123.75</b>	PRINCETON RADIO <b>122.5</b>	UNICOM <b>123.5</b>
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CATEGORY	A	B	C	D
LPV DA	1231-½		200 (200-½)	
LNAV/VNAV DA	1455-1		424 (500-1)	
LNAV MDA	1440-½	409 (500-½)	1440-¾ 409 (500-¾)	1440-1 409 (500-1)
CIRCLING	1500-1	469 (500-1)	1500-1½ 469 (500-1½)	1620-2 589 (600-2)



NC-1: 22 OCT 2009 to 19 NOV 2009

APP CRS <b>236°</b>	Rwy Idg TDZE Apt Elev	<b>3000</b> <b>1022</b> <b>1031</b>
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## RNAV (GPS) RWY 23

ST. CLOUD RGNL (STC)

**A** When local altimeter setting not received, use Little Falls altimeter setting and increase all MDA 80 feet and LNAV Cat C visibility  $\frac{1}{4}$  mile. Visibility reduction by helicopters NA. DME/DME RNP-0.3 NA.

MISSED APPROACH: Climb to 3000 direct HUBOX WP and hold.

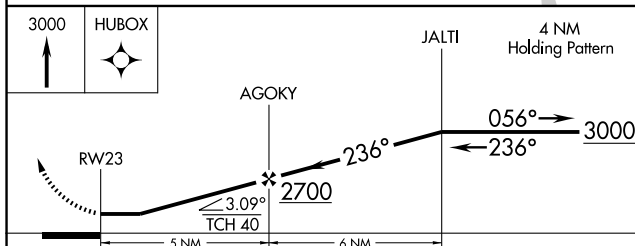
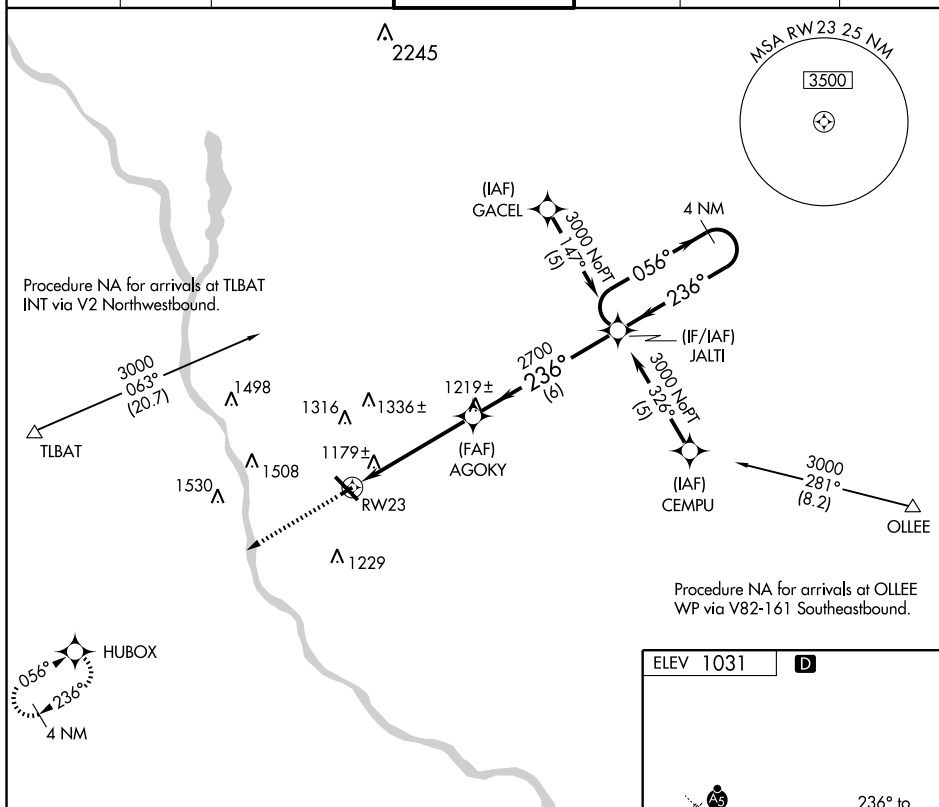
ATIS  
**119.375**

ASOS  
112.1

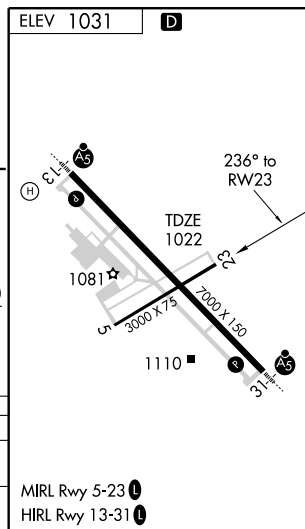
MINNEAPOLIS CENTER  
121.05 397.9

ST. CLOUD TOWER ★  
118.25 (CTAF) L

GND CON  
123.75

PRINCETON RADIO  
122.5UNICOM  
123.5


CATEGORY	A	B	C	D
LNAV MDA	1440-1	418 (500-1)	1440-1 $\frac{1}{4}$ 418 (500-1 $\frac{1}{4}$ )	NA
CIRCLING	1500-1	469 (500-1)	1500-1 $\frac{1}{2}$ 469 (500-1 $\frac{1}{2}$ )	NA



WAAS	APP CRS	Rwy Idg	7000
CH 61213	313°	TDZE	1020
W31A		Apt Elev	1031

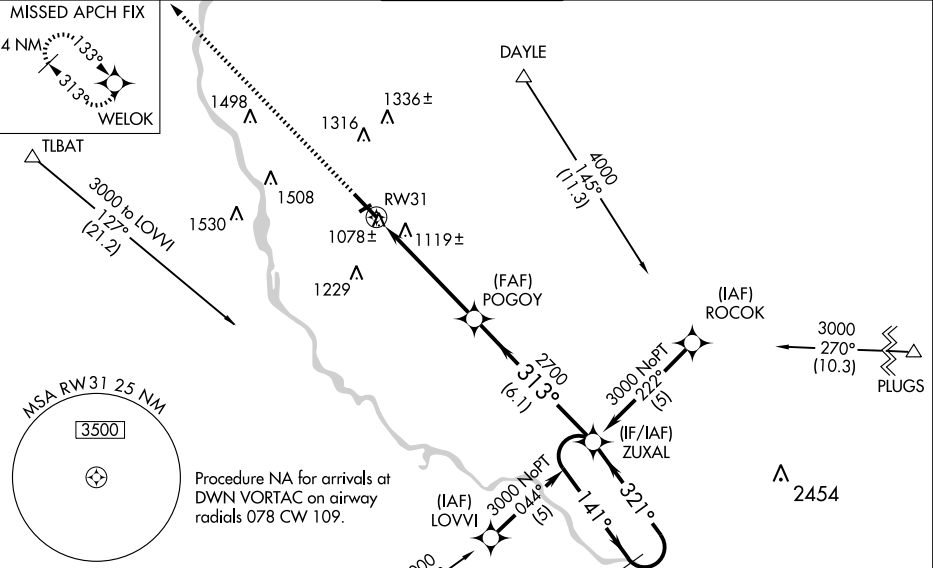
**⚠** DME/DME RNP-0.3 NA. Circling to Rwy 5-23 NA at night. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (114°F). When local altimeter setting not received, use Little Falls altimeter setting and increase all DA 76 feet and all MDA 80 feet. Increase LNAV/ VNAV visibility ¼ mile all Cats. For inoperative MALSR, increase LNAV Cat D visibility ¼ mile. For inoperative MALSR when using Little Falls altimeter setting, increase LPV all Cats visibility ½ mile. Baro-VNAV and VDP NA when using Little Falls altimeter setting.


MALSR

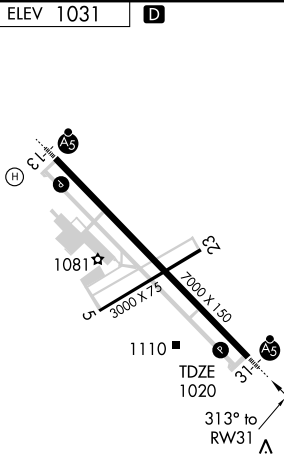



MISSED APPROACH:  
Climb to 3000 direct WELOK and hold.


ATIS	ASOS	MINNEAPOLIS CENTER	ST. CLOUD TOWER ★	GND CON	PRINCETON RADIO	UNICOM
119.375	112.1	121.05 397.9	118.25 (CTAF) 	123.75	122.5	123.5


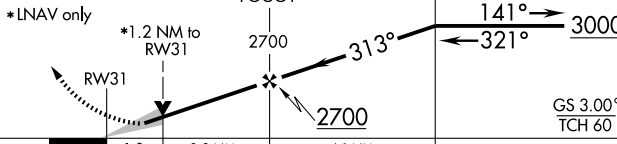


ELEV 1031 



MIRL Rwy 5-23 

HIRL Rwy 13-31 

		4 NM Holding Pattern			
*LNAV only					
CATEGORY		A	B	C	D
LPV DA	DA	1220-1½		200 (200-½)	
LNAV/VNAV DA	DA	1379-¾		359 (400-¾)	
LNAV MDA		1440-1½	420 (500-½)	1440-¾ 420 (500-¾)	1440-1 420 (500-1)
CIRCLING		1500-1	469 (500-1)	1500-1½ 469 (500-1½)	1620-2 589 (600-2)

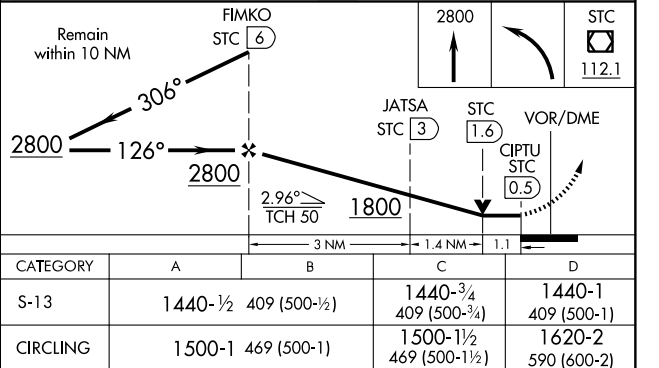
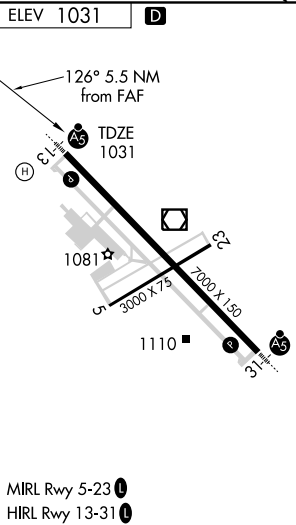
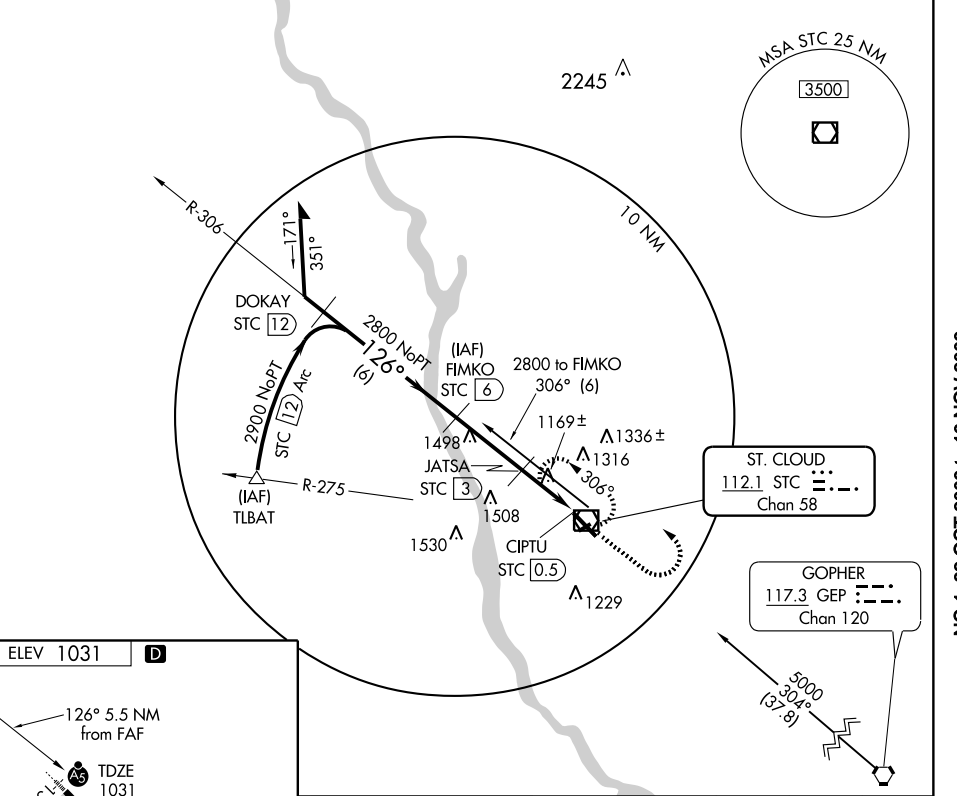
NC-1: 22 OCT 2009 to 19 NOV 2009

**▲** For inoperative MALS, increase Cat D visibility to 1¼. When local altimeter setting not received, use Little Falls altimeter setting and increase all MDA 80 feet.

**MALS**

**MISSED APPROACH:** Climb to 2800, then left turn direct STC VOR/DME and hold.

ATIS <b>119.375</b>	ASOS <b>112.1</b>	MINNEAPOLIS CENTER <b>121.05 397.9</b>	ST. CLOUD TOWER ★ <b>118.25</b> (CTAF) <b>0</b>	GND CON <b>123.75</b>	PRINCETON RADIO <b>122.5</b>	UNICOM <b>123.5</b>
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VOR/DME STC <b>112.1</b> Chan <b>58</b>	APP CRS <b>320°</b>	Rwy Idg <b>7000</b> TDZE <b>1019</b> Apt Elev <b>1031</b>
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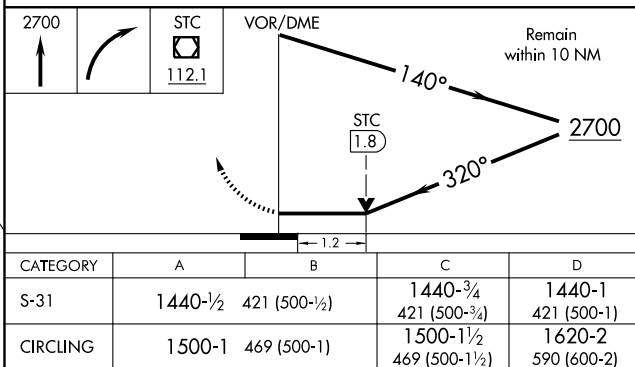
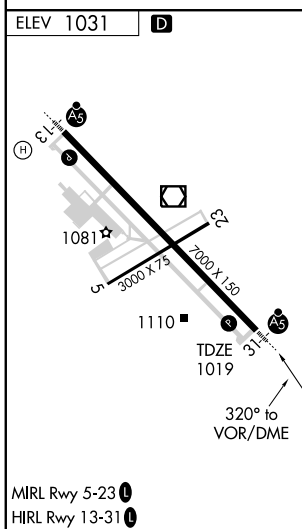
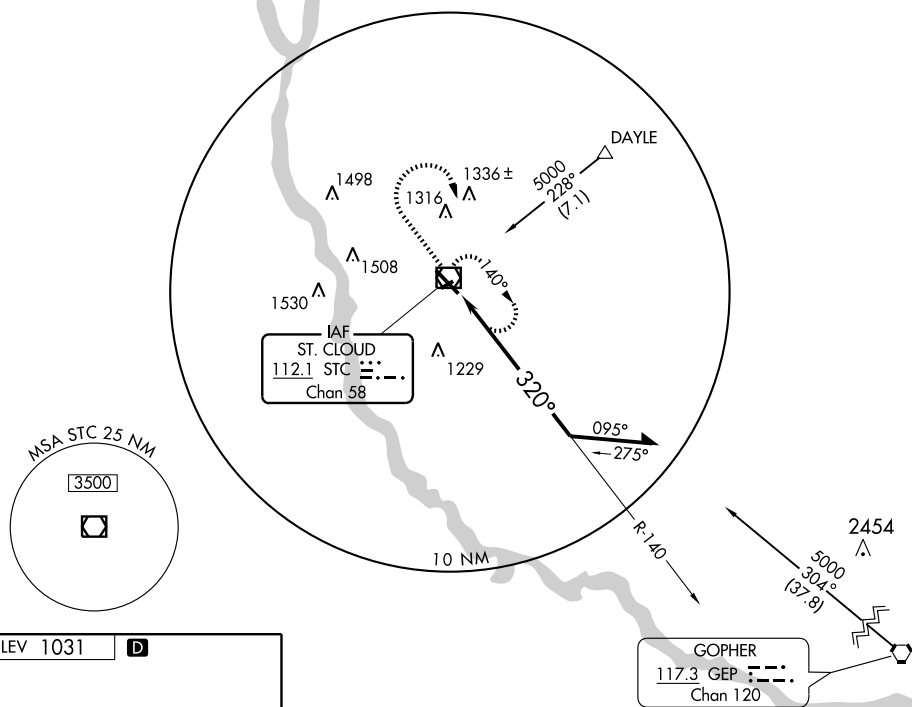
VOR RWY 31  
ST. CLOUD RGNL (STC)

**A** For inoperative MALSR, increase Cat D visibility to 1¼. When local altimeter setting not received, use Little Falls altimeter setting and increase all MDA 80 feet.

MALSR

**MISSED APPROACH:** Climb to 2700, then right turn direct STC VOR/DME and hold.

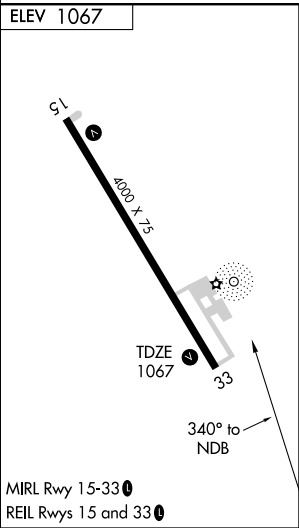
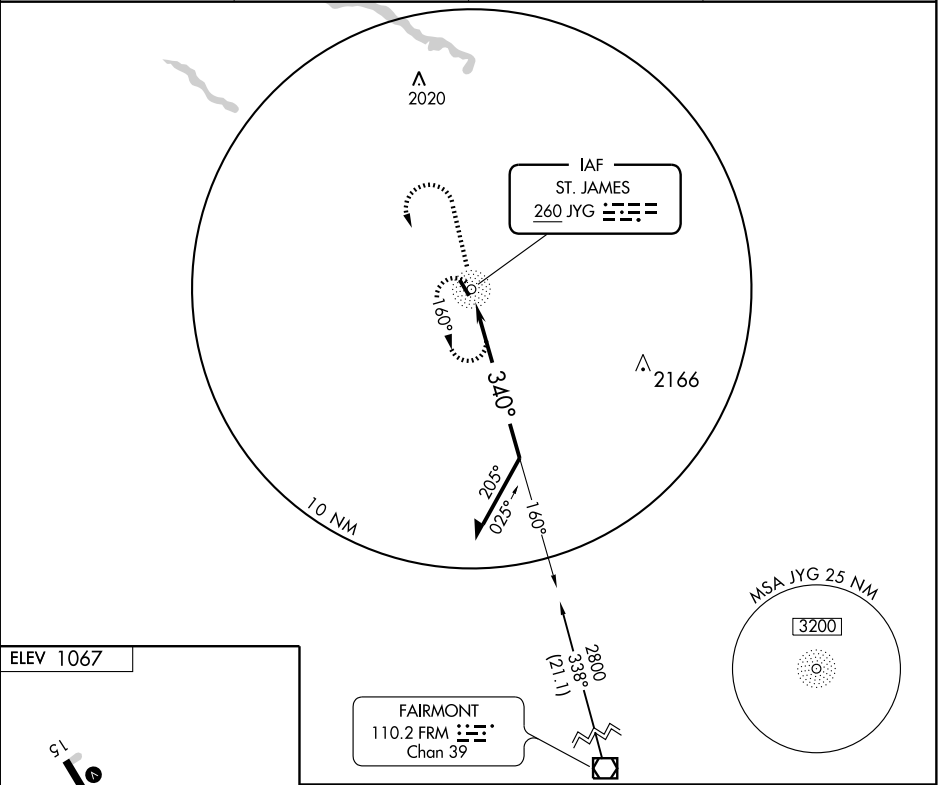
ATIS <b>119.375</b>	ASOS <b>112.1</b>	MINNEAPOLIS CENTER <b>121.05 397.9</b>	ST. CLOUD TOWER ★ <b>118.25 (CTAF) 0</b>	GND CON <b>123.75</b>	PRINCETON RADIO <b>122.5</b>	UNICOM <b>123.5</b>
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NDB RWY 33  
ST. JAMES MUNI (JYG)

NDB JYG <b>260</b>	APP CRS <b>340°</b>	Rwy Idg TDZE Apt Elev	<b>4000</b> <b>1067</b> <b>1067</b>
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<div>▼</div> <div>▲ NA</div>		MISSED APPROACH: Climb to 2200 then climbing left turn to 2800 direct JYG NDB and hold.	
AWOS-3 <b>260</b>	MINNEAPOLIS CENTER <b>127.75 257.7</b>	GCO <b>121.725</b>	CTAF <b>122.9</b>



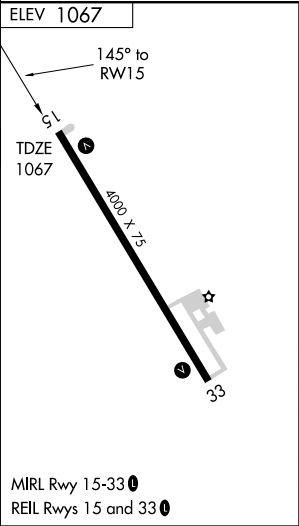
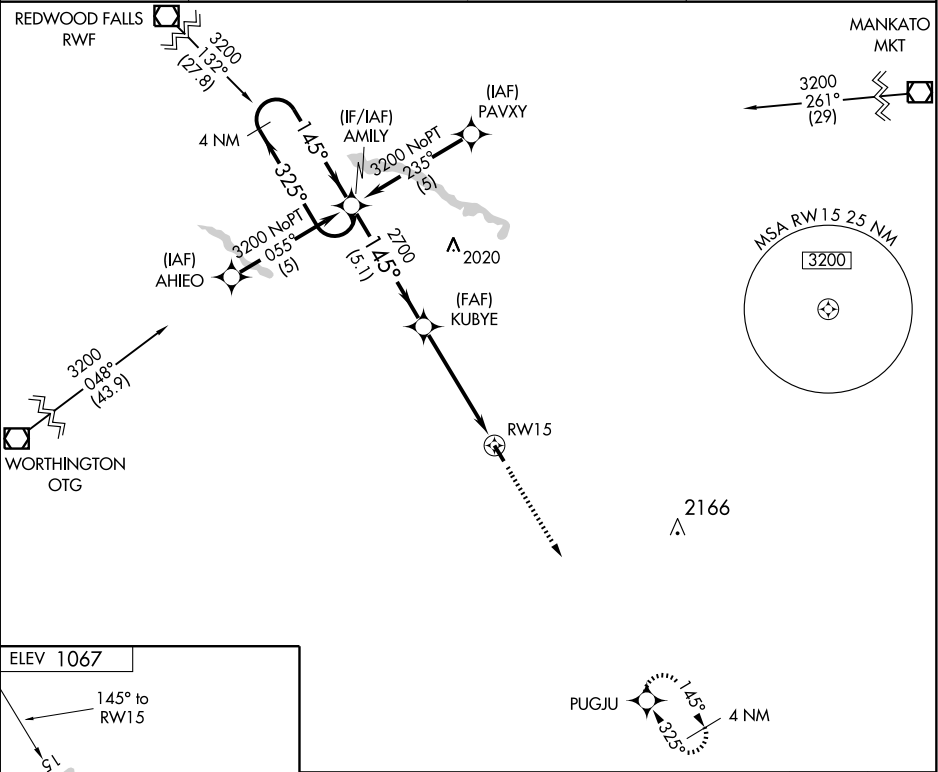
2200 ↑		2800 ↶	JYG 260	Remain within 10 NM	
NDB		160°		2800	
		340°			
CATEGORY	A	B	C	D	
S-33	1620-1	553 (600-1)	NA		
CIRCLING	1620-1	553 (600-1)	NA		

APP CRS	Rwy Idg	4000
145°	TDZE	1067
	Apt Elev	1067

# RNAV (GPS) RWY 15

ST. JAMES MUNI (JYG)

Baro-VNAV not authorized below -17°C (1°F). GPS or RNP-0.3 required. DME/DME RNP-0.3 NA.		MISSED APPROACH: Climb to 3200 via 145° course to PUGJU WP and hold.	
AWOS-3 260	MINNEAPOLIS CENTER 127.75 257.7	GCO 121.725	CTAF 122.9 0





4 NM Holding Pattern		AMILY		VGSi and descent angles not coincident		<div><div>3200</div><div>↑</div><div>145° CRS</div></div>	<div><div>PUGJU</div><div>✧</div></div>
3200		←325° 145°→		KUBYE		* 1.2 NM to RW15	
GS 3.00° TCH 40		145°		2700		* LNAV only	
		5.1 NM		3.8 NM		1.2 NM	
CATEGORY	A	B		C		D	
GLS PA DA	NA						
LNAV/VNAV DA	1460-1½	393 (400-1½)				NA	
LNAV MDA	1480-1	413 (500-1)				NA	
CIRCLING	1500-1½ 433 (500-1½)	1520-1½ 453 (500-1½)				NA	

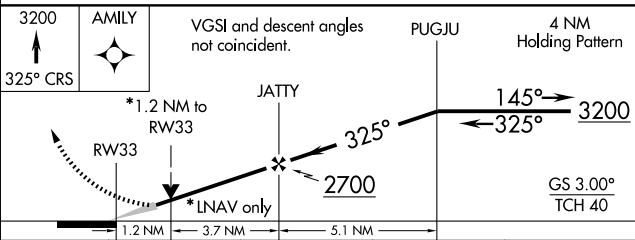
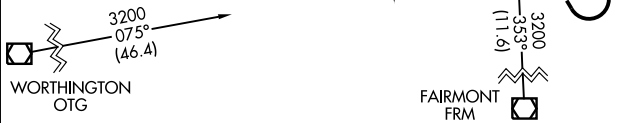
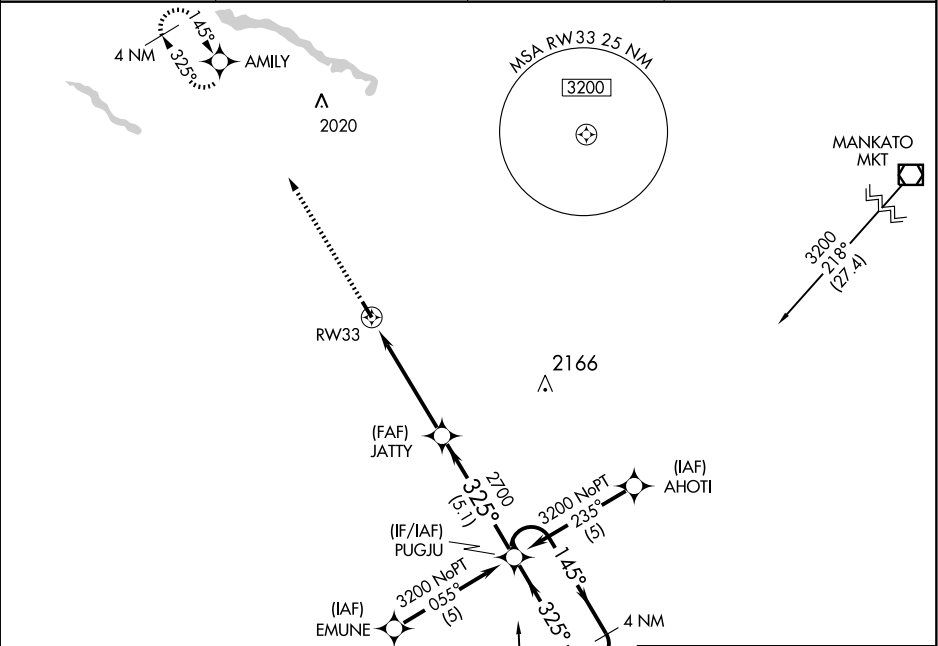
APP CRS	Rwy Idg	4000
325°	TDZE	1066
	Apt Elev	1067

# RNAV (GPS) RWY 33

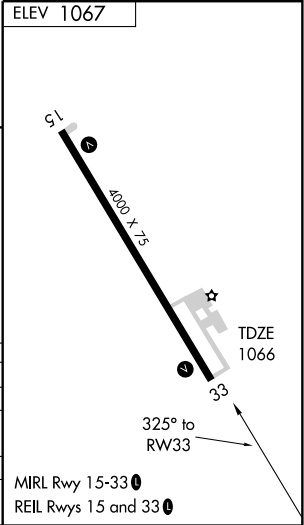
ST. JAMES MUNI (JYG)

 Baro-VNAV not authorized below -17°C (1°F).	MISSED APPROACH: Climb to 3200 via 325° course to AMILY WP and hold.
 GPS or RNP-0.3 required. DME/DME RNP-0.3 NA.	

AWOS-3 260	MINNEAPOLIS CENTER 127.75 257.7	GCO 121.725	CTAF 122.9 0
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CATEGORY	GLS PA	DA	NA	DA	MDA	CIRCLING
LNAB/VNAV	1440-1¼	374 (400-1¼)	NA	NA	NA	NA
LNAB	1460-1	394 (400-1)	NA	NA	NA	NA
CIRCLING	1500-1¼	433 (500-1¼)	1520-1¼	453 (500-1¼)	NA	NA





## MINNEAPOLIS-ST. PAUL, MINNESOTA

NC-1. 22 OCT 2009 to 19 NOV 2009

NDB RWY 4

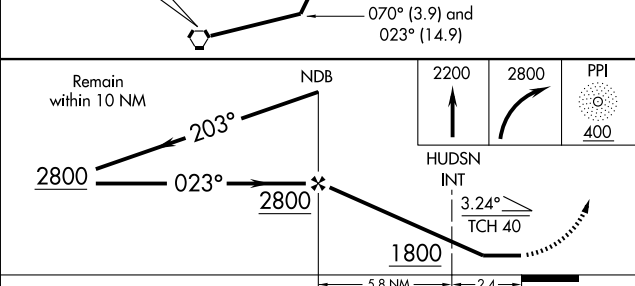
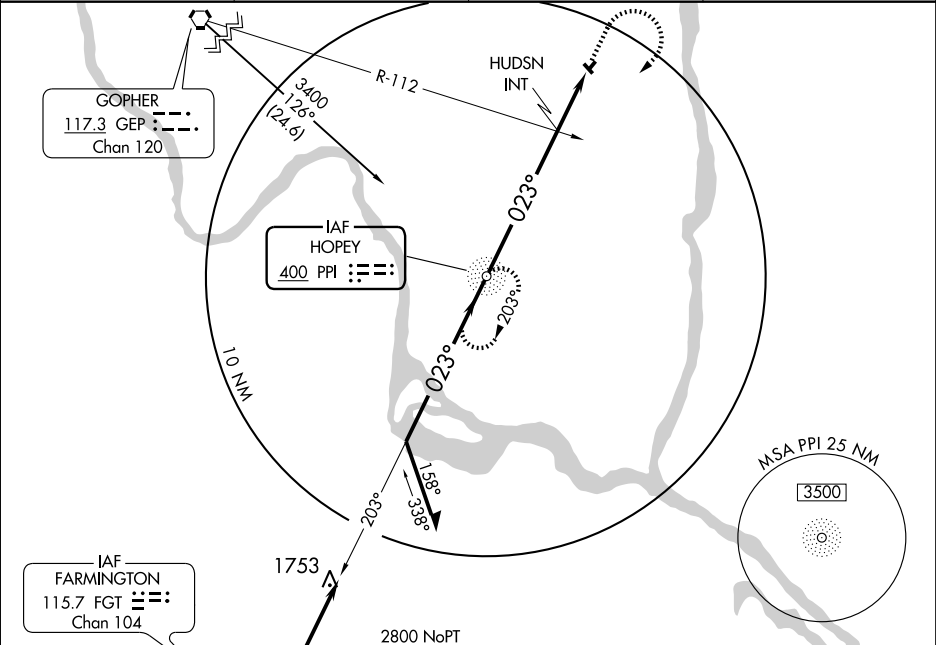
ST. PAUL/LAKE ELMO (21D)

NDB PPI <b>400</b>	APP CRS <b>023°</b>	Rwy Idg TDZE Apt Elev	<b>2497</b> <b>932</b> <b>932</b>
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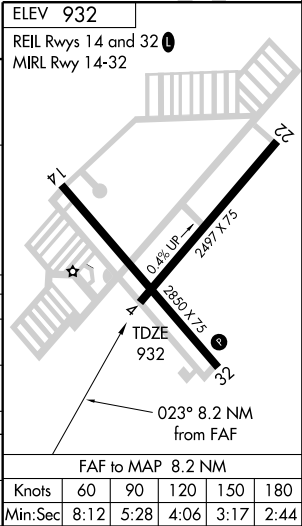
When local altimeter setting not received, use St. Paul Downtown Holman Field altimeter setting. Straight-in minimums NA at night.

MISSED APPROACH: Climb to 2200 then climbing right turn to 2800 direct PPI NDB and hold.

AWOS-3 <b>120.075</b>	MINNEAPOLIS APP CON <b>121.2</b>	CLNC DEL <b>118.625</b>	UNICOM <b>122.8</b> (CTAF) <b>0</b>
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CATEGORY	A	B	C	D
S-4	1800-1 868 (900-1)	1800-1¼ 868 (900-1¼)	1800-2½ 868 (900-2½)	NA
CIRCUING	1800-1 868 (900-1)	1800-1¼ 868 (900-1¼)	1800-2½ 868 (900-2½)	NA
HUDSN FIX MINIMUMS				
S-4	1520-1 588 (600-1)	1520-1½ 588 (600-1½)	1520-1½ 588 (600-1½)	NA
CIRCUING	1520-1 588 (600-1)	1540-1 608 (700-1)	1540-1¾ 608 (700-1¾)	NA



APP CRS 314°	Rwy Idg TDZE Apt Elev	2850 926 932
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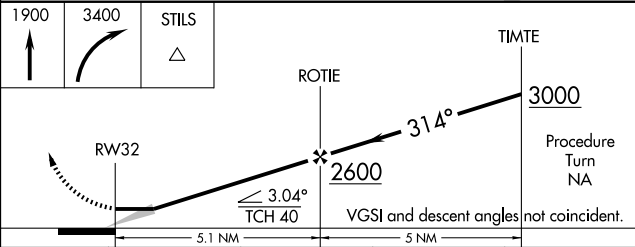
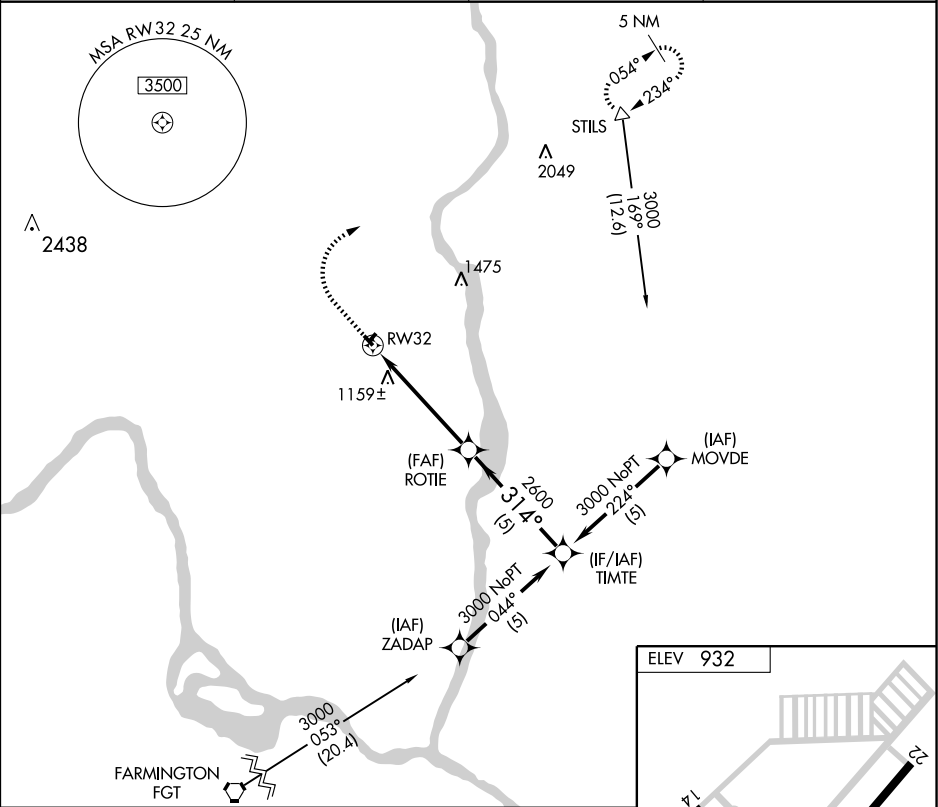
RNAV (GPS) RWY 32

ST. PAUL/LAKE ELMO (21D)

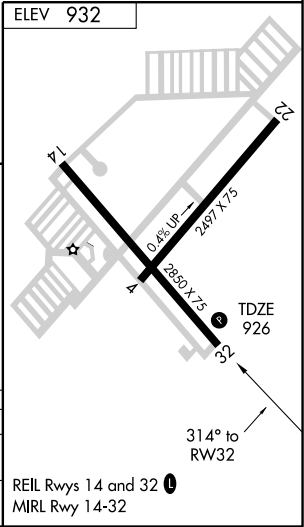
**NA** DME/DME RNP-0.3 NA.  
When local altimeter setting not received, use St. Paul  
Downtown Holman Field altimeter setting.

MISSED APPROACH: Climb to 1900 then climbing right turn to  
3400 direct STILS WP and hold.

AWOS-3 120.075	MINNEAPOLIS APP CON 121.2	CLNC DEL 118.625	UNICOM 122.8 (CTAF) <b>0</b>
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CATEGORY	A	B	C	D
LNAV MDA	1480-1	554 (600-1)	1480-1½ 554 (600-1½)	NA
CIRCLING	1500-1 568 (600-1)	1540-1 608 (700-1)	1540-1¾ 608 (700-1¾)	NA



# AGUDE ONE ARRIVAL

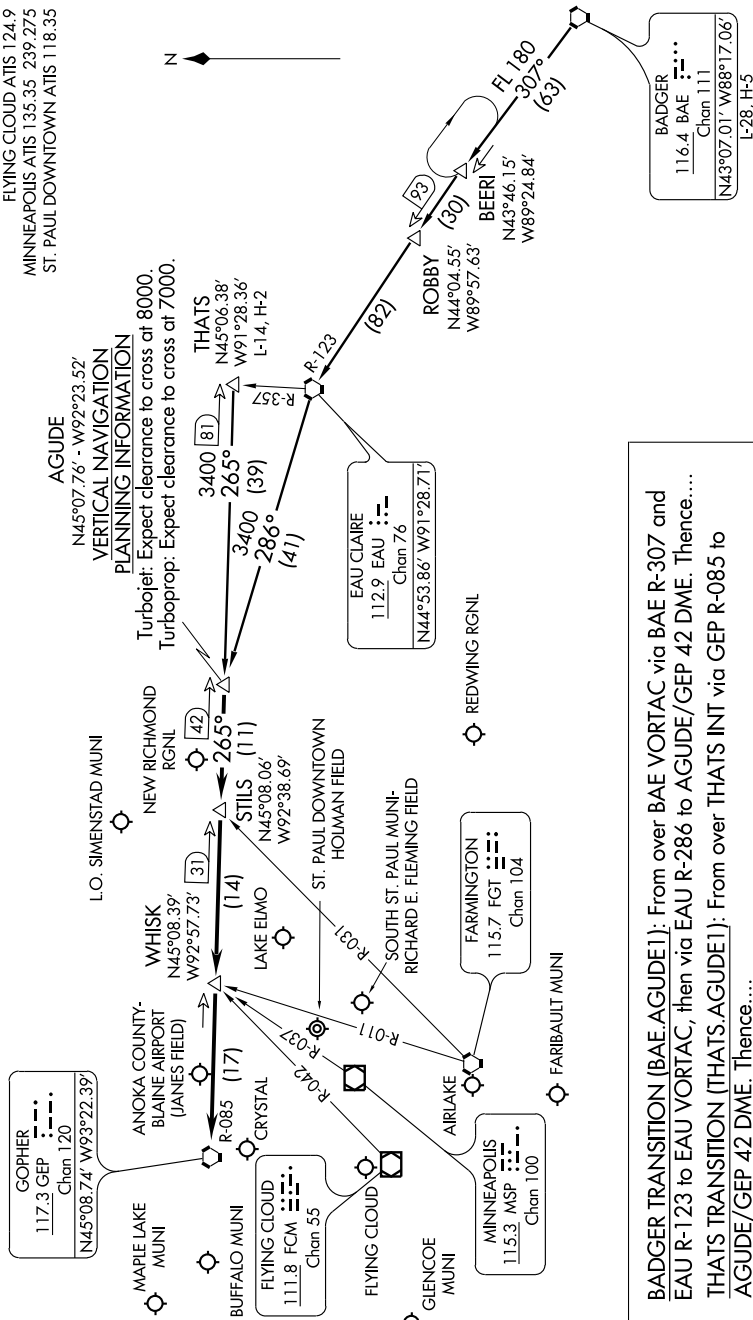
ST-263 (FAA)

MINNEAPOLIS-ST. PAUL, MINNESOTA

MINNEAPOLIS APP CON  
126.95 335.5  
ANOKA COUNTY ATIS 120.625  
CRYSTAL ATIS 124.475  
FLYING CLOUD ATIS 124.9  
MINNEAPOLIS ATIS 135.35 239.275  
ST. PAUL DOWNTOWN ATIS 118.35

AGUDE  
N45°07.76' - W92°23.57'  
VERTICAL NAVIGATION  
PLANNING INFORMATION

Turbopjet: Expect clearance to cross at 8000.  
Turboprop: Expect clearance to cross at 7000.



BADGER TRANSITION [BAE AGUDE1]: From over BAE VORTAC via BAE R-307 and EAU R-123 to EAU VORTAC, then via EAU R-286 to AGUDE/GEF 42 DME. Thence....  
THATS TRANSITION [THATS.AGUDE1]: From over THATS INT via GEP R-085 to AGUDE/GEF 42 DME. Thence....

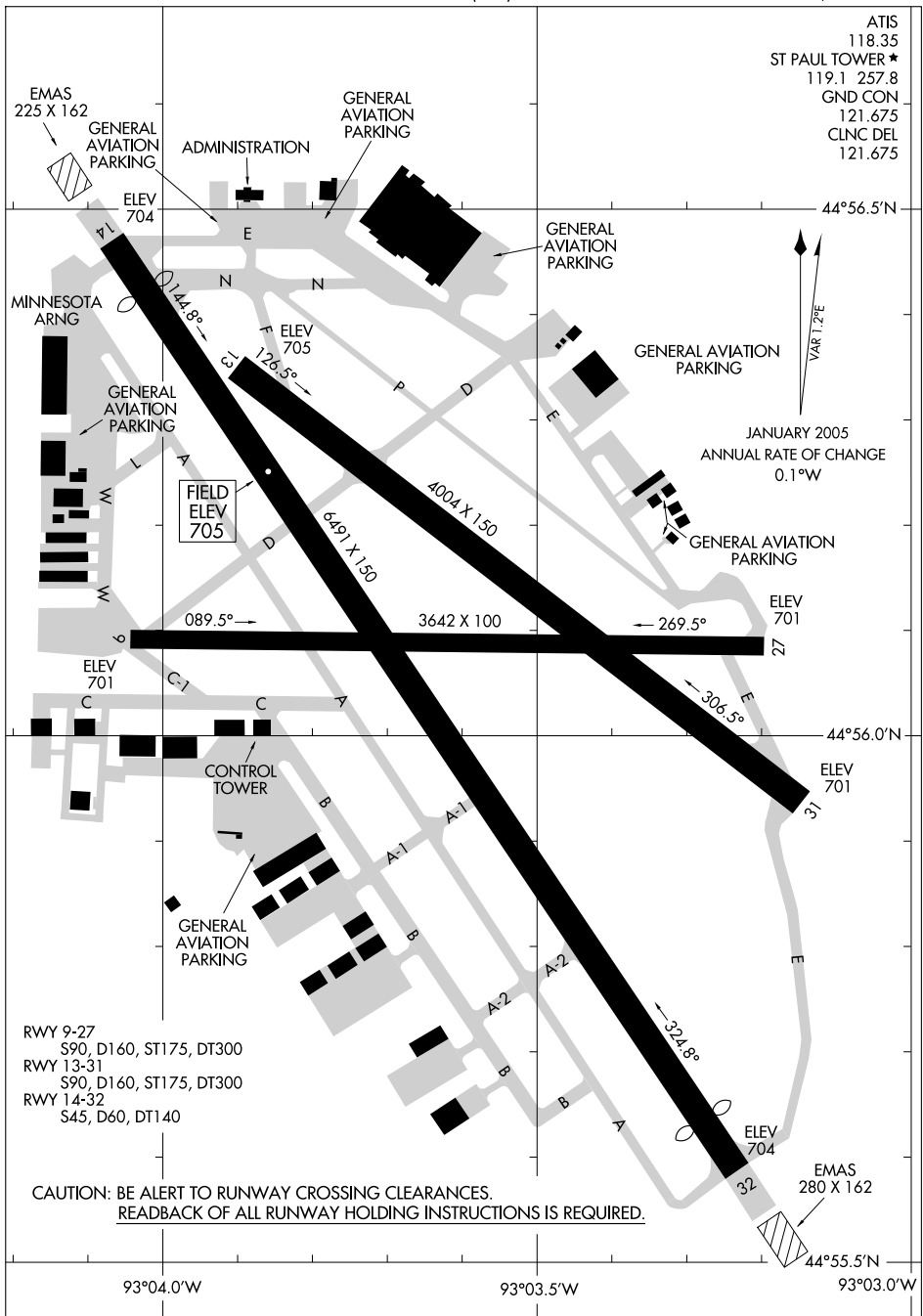
....From over AGUDE/GEF 42 DME via the GEP R-085 to GEP VORTAC, then expect radar vector to final approach course.

NOTE: DME and RADAR required.

NOTE: Chart not to scale.

# AIRPORT DIAGRAM

ST. PAUL DOWNTOWN HOLMAN FIELD (STP)  
ST. PAUL, MINNESOTA



NC-1, 22 OCT 2009 to 19 NOV 2009

LOC/DME I-BAO <b><u>111.5</u></b> Chan <b>52</b>	APP CRS <b>323°</b>	Rwy Idg <b>6109</b> TDZE <b>704</b> Apt Elev <b>705</b>
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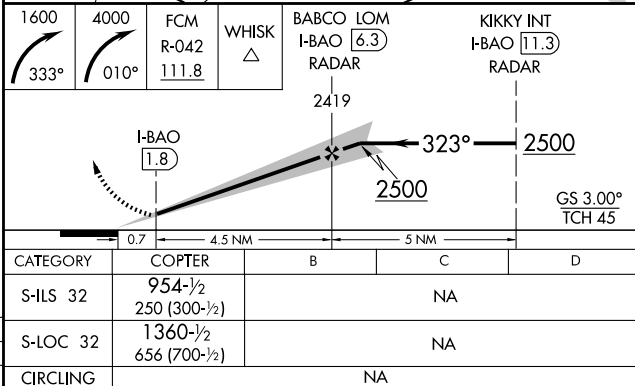
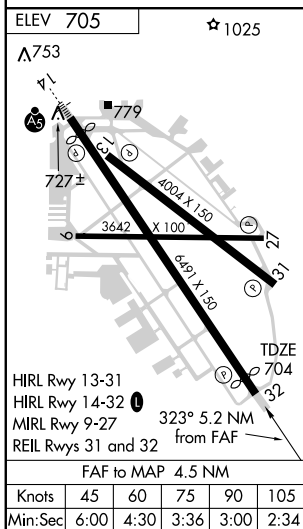
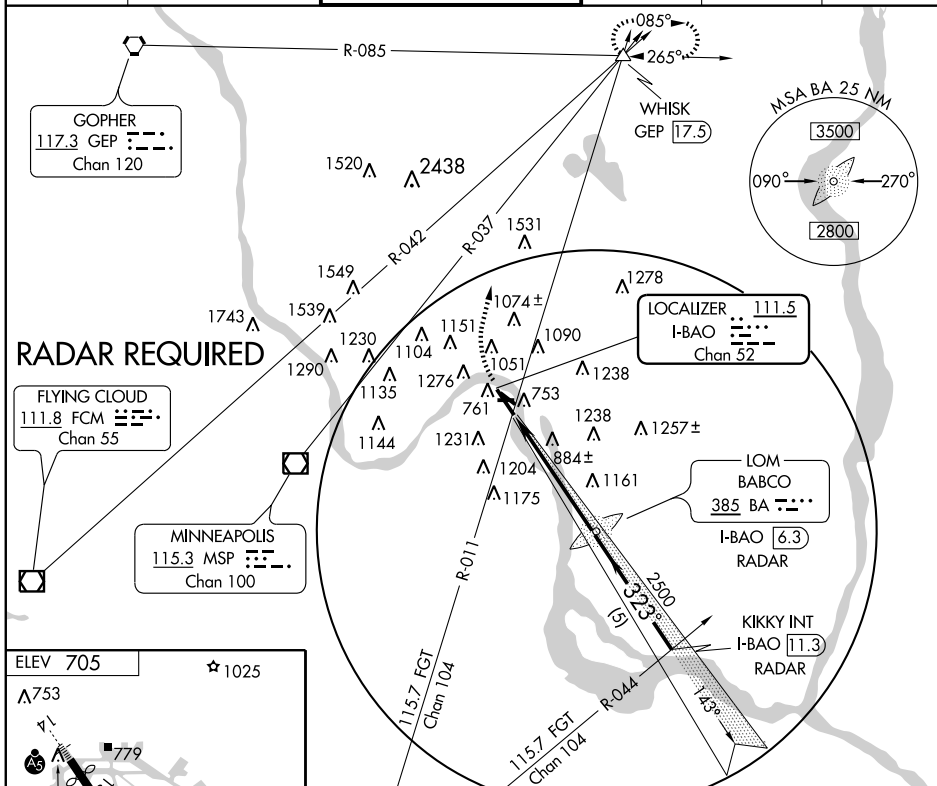
# COPTER ILS or LOC RWY 32

## ST. PAUL DOWNTOWN HOLMAN FIELD (STP)

**MISSED APPROACH:** Climbing right turn heading 333° to 1600 then climbing right turn to 4000 via heading 010° and FCM R-042 to WHISK Int and hold.



ATIS <b>118.35</b>	MINNEAPOLIS APP CON <b>121.2 357.4</b>	ST. PAUL TOWER ★ <b>119.1 (CTAF) 0 257.8</b>	GND CON <b>121.675</b>	CLNC DEL <b>121.675</b>	UNICOM <b>122.95</b>
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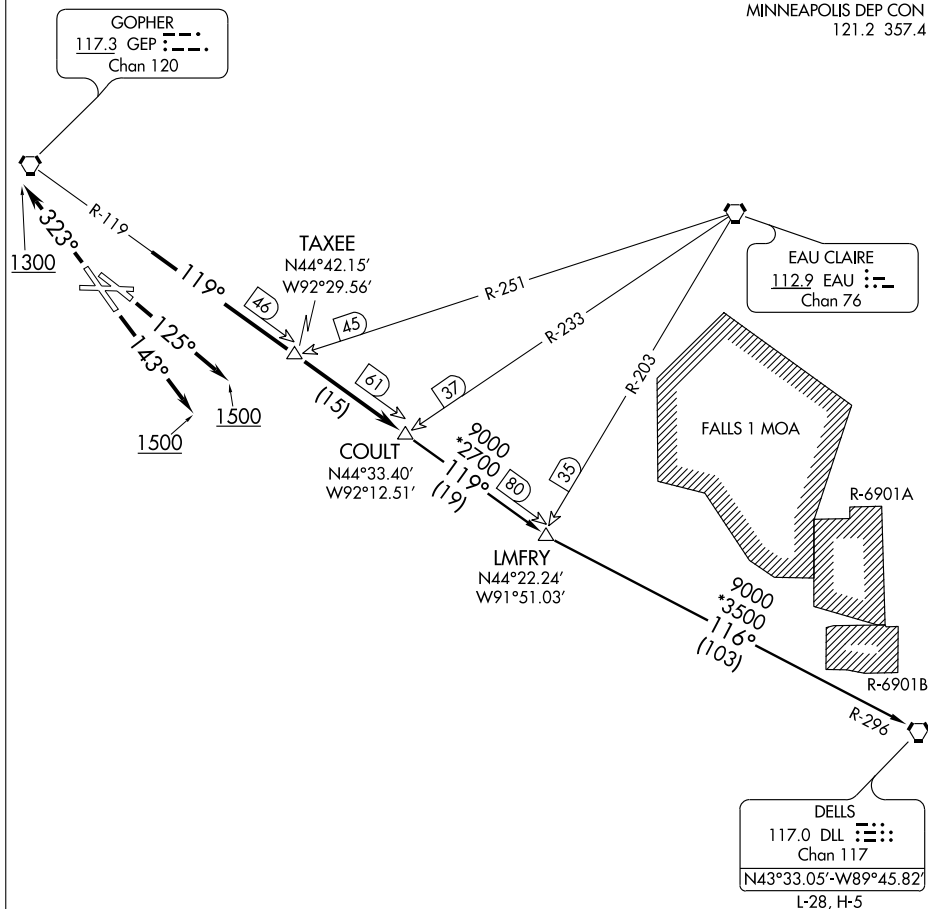
# COULT TWO DEPARTURE

08157

ST. PAUL DOWNTOWN HOLMAN FIELD (STP)  
SL-263 (FAA)

ST. PAUL, MINNESOTA

ATIS 118.35  
CLNC DEL  
121.675  
MINNEAPOLIS DEP CON  
121.2 357.4



## TAKE-OFF MINIMUMS

Rwy 31: NA-obstacles.

Rwy 9: Standard with minimum climb of 346' per NM to 1500.

Rwy 13: Standard with minimum climb of 266' per NM to 1500.

Rwy 14: Standard with minimum climb of 216' per NM to 1500.

Rwy 27: Standard with minimum climb of 436' per NM to 1500.

Rwy 32: Standard with minimum climb of 340' per NM to 3000.

NOTE: RADAR required.

(NARRATIVE ON FOLLOWING PAGE)

NOTE: Chart not to scale.

NC-1, 22 OCT 2009 to 19 NOV 2009



# DEPARTURE ROUTE DESCRIPTON

TAKE-OFF RUNWAYS 9, 27: Fly assigned heading and altitude for radar vectors to intercept GEP R-119 to COULT INT/GEP 61 DME, thence....

TAKE-OFF RUNWAY 13: Climb heading 125° to 1500 for radar vectors to intercept GEP R-119 to COULT INT/GEP 61 DME, thence....

TAKE-OFF RUNWAY 14: Climb heading 143° to 1500 for radar vectors to intercept GEP R-119 to COULT INT/GEP 61 DME, thence....

TAKE-OFF RUNWAY 32: Climb heading 323° to 1300 for radar vectors to intercept GEP R-119 to COULT INT/GEP 61 DME, thence....

....via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

DELLS TRANSITION (COULT2.DLL): From over COULT INT via GEP R-119 and DLL R-296 to DLL VORTAC.

## TAKE-OFF OBSTACLE NOTES

- RWY 9: Multiple trees beginning 1265' from DER, 167' right of centerline, up to 75' AGL/1055' MSL.  
Multiple trees beginning 1.1 NM from DER, 124' left of centerline, up to 100' AGL/1099' MSL.  
OL tank 1571' from DER, 771' right of centerline, 50' AGL/811' MSL.  
Mobile crane 1163' from DER, 123' left of centerline, 50' AGL/758' MSL.
- RWY 13: OL stack 2695' from DER, 842' right of centerline, 50' AGL/820' MSL.  
Tree 1563' from DER, 25' right of centerline, 61' AGL/748' MSL.  
Multiple trees beginning 1004' from DER, 607' left of centerline, 50' AGL/767' MSL.  
Tower 1725' from DER, 930' left of centerline, 47' AGL/753' MSL.  
Vent on building 3029' from DER, 629' right of centerline, 10' AGL/783' MSL.  
Multiple bushes beginning 194' from DER, 88' left of centerline, 7' AGL/712' MSL.  
Stack 1879' from DER, 25' left of centerline, 51' AGL/751' MSL.
- RWY 14: Multiple trees beginning 805' from DER, 2' right of centerline, up to 112' AGL/811' MSL.  
Multiple trees beginning 1205' from DER, 64' left of centerline, up to 80' AGL/770' MSL.  
Poles 2810' from DER, 715' right of centerline, 91' AGL/778' MSL.
- RWY 27: Multiple trees beginning 803' from DER, 122' left of centerline, up to 100' AGL/994' MSL.  
Tree 783' from DER, 105' right of centerline, 25' AGL/725' MSL.  
OL antenna 996' from DER, 304' right of centerline, 67' AGL/767' MSL.  
Light pole 1328' from DER, 222' left of centerline, 50' AGL/747' MSL.  
Building 2049' from DER, 837' right of centerline, 57' AGL/761' MSL.  
Flagpole 2333' from DER, 199' left of centerline, 78' AGL/778' MSL.  
Stack 1.8 NM from DER, 635' left of centerline, 569' AGL/1279' MSL.
- RWY 32: Road and vehicle 211' from DER, 482' left of centerline, 17' AGL/717' MSL.  
Railroad beginning 369' from DER, 329' left of centerline, up to 23' AGL/727' MSL.  
Pipe on DME 383' from DER, 269' right of centerline, 17' AGL/722' MSL.  
Tree 1152' from DER, 209' left of centerline, 44' AGL/744' MSL.  
Tree 1685' from DER, 277' right of centerline, 75' AGL/770' MSL.  
Sign 5668' from DER, 1924' left of centerline, 86' AGL/874' MSL.  
Trees 5614' from DER, 1796' right of centerline, 100' AGL/939' MSL.  
Building 5779' from DER, 1733' right of centerline, 72' AGL/910' MSL.  
Pole 1 NM from DER, 1835' right of centerline, 157' AGL/973' MSL.  
Building 1.1 NM from DER, 2170' left of centerline, 122' AGL/886' MSL.  
Multiple buildings beginning 1.1 NM from DER, 378' left of centerline, up to 142' AGL/918' MSL.



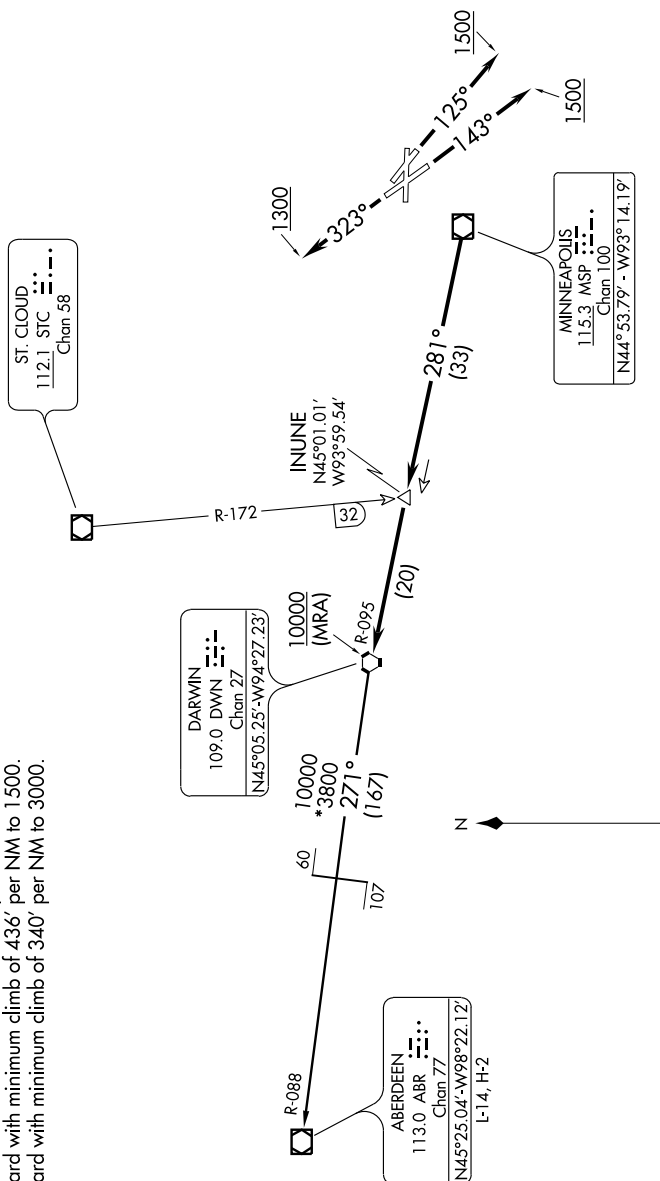
## DARWIN TWO DEPARTURE

ST. PAUL DOWNTOWN HOLMAN FIELD (STP)

SL-263 (FAA)

ST. PAUL, MINNESOTA

ATIS 118.35  
CLNC DEL  
121.6/5  
MINNEAPOLIS DEP CON  
121.2 357.4



NOTE: RADAR required.

NOTE: Chart not to scale.

(NARRATIVE ON FOLLOWING PAGE)



## DEPARTURE ROUTE DESCRIPTION

TAKE-OFF RUNWAYS 9, 27: Fly assigned heading and altitude for radar vectors to MSP VOR/DME then via MSP R-281 and DWN R-095 to DWN VORTAC, thence....

TAKE-OFF RUNWAY 13: Climb heading 125° to 1500 for radar vectors to MSP VOR/DME then via MSP R-281 and DWN R-095 to DWN VORTAC, thence....

TAKE-OFF RUNWAY 14: Climb heading 143° to 1500 for radar vectors to MSP VOR/DME then via MSP R-281 and DWN R-095 to DWN VORTAC, thence....

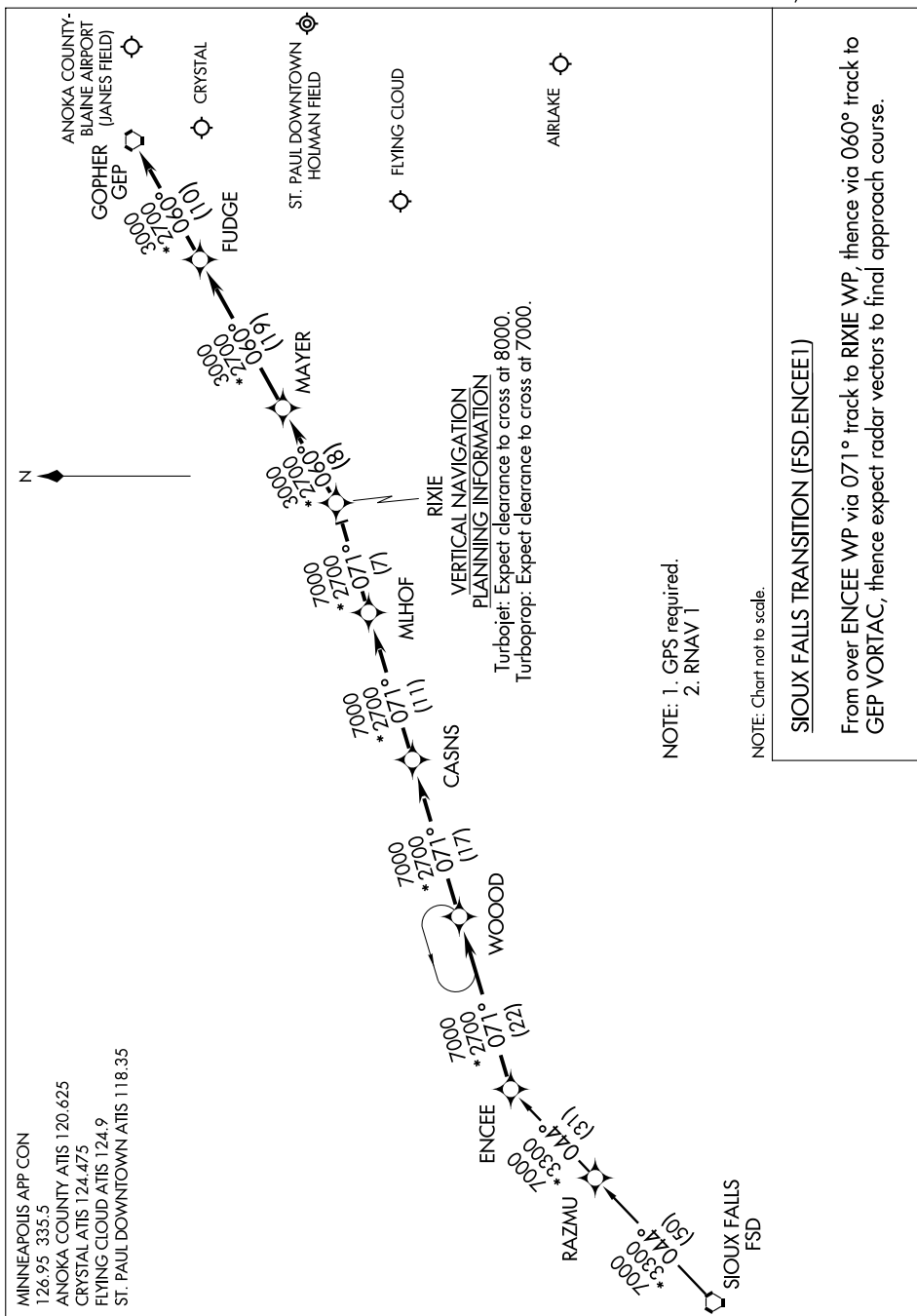
TAKE-OFF RUNWAY 32: Climb heading 323° to 1300 for radar vectors to MSP VOR/DME then via MSP R-281 and DWN R-095 to DWN VORTAC, thence....

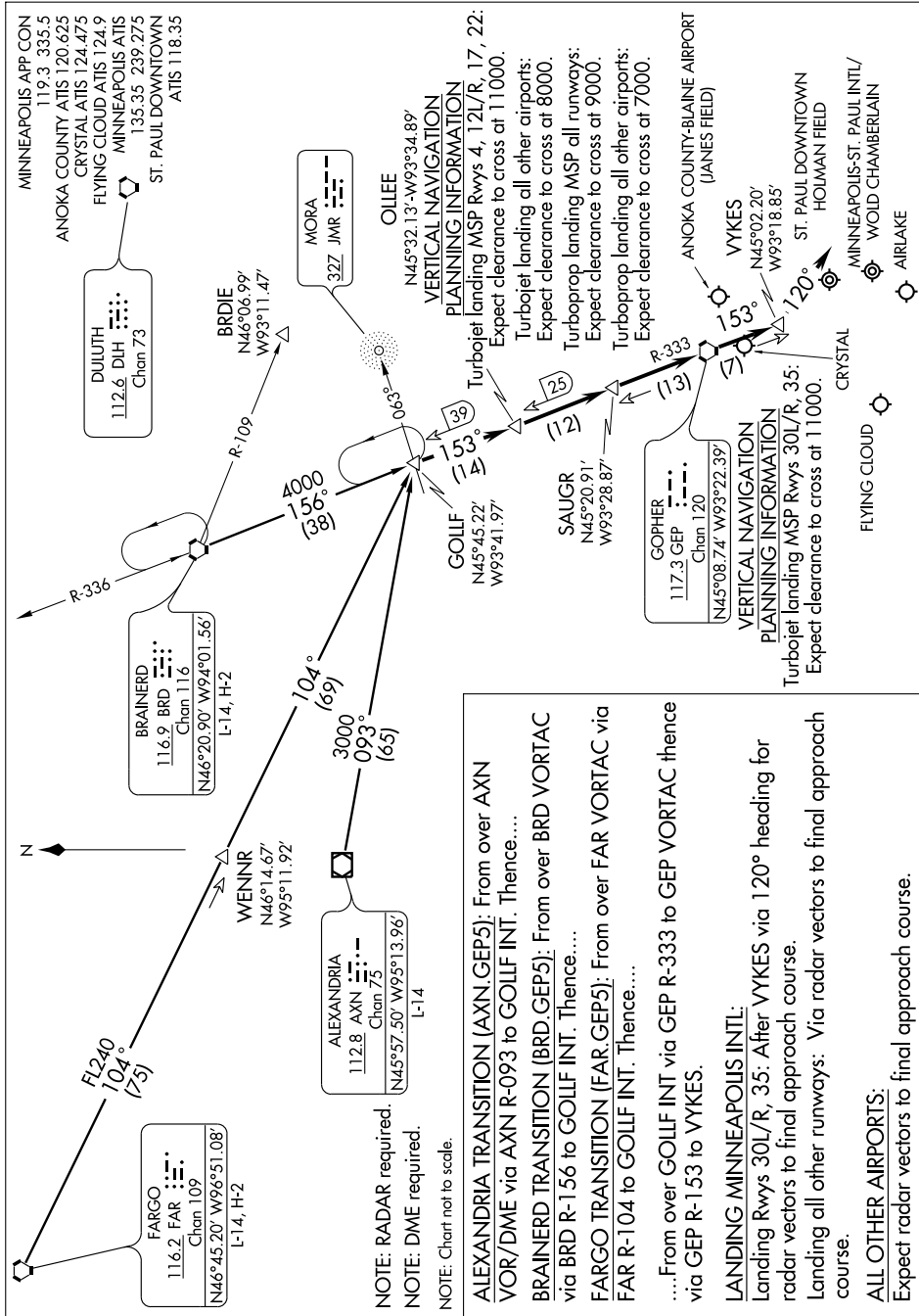
...via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

ABERDEEN TRANSITION (DWN2.ABR): From over DWN VORTAC via DWN R-271 and ABR R-088 to ABR VOR/DME.

## TAKE-OFF OBSTACLE NOTES

- RWY 9: Multiple trees beginning 1265' from DER, 167' right of centerline, up to 75' AGL/1055' MSL.  
Multiple trees beginning 1.1 NM from DER, 124' left of centerline, up to 100' AGL/1099' MSL.  
OL tank 1571' from DER, 771' right of centerline, 50' AGL/811' MSL.  
Mobile crane 1163' from DER, 123' left of centerline, 50' AGL/758' MSL.
- RWY 13: OL stack 2695' from DER, 842' right of centerline, 50' AGL/820' MSL.  
Tree 1563' from DER, 25' right of centerline, 61' AGL/748' MSL.  
Multiple trees beginning 1004' from DER, 607' left of centerline, 50' AGL/767' MSL.  
Tower 1725' from DER, 930' left of centerline, 47' AGL/753' MSL.  
Vent on building 3029' from DER, 629' right of centerline, 10' AGL/783' MSL.  
Multiple bushes beginning 194' from DER, 88' left of centerline, 7' AGL/712' MSL.  
Stack 1879' from DER, 25' left of centerline, 51' AGL/751' MSL.
- RWY 14: Multiple trees beginning 805' from DER, 2' right of centerline, up to 112' AGL/811' MSL.  
Multiple trees beginning 1205' from DER, 64' left of centerline, up to 80' AGL/770' MSL.  
Poles 2810' from DER, 715' right of centerline, 91' AGL/778' MSL.
- RWY 27: Multiple trees beginning 803' from DER, 122' left of centerline, up to 100' AGL/994' MSL.  
Tree 783' from DER, 105' right of centerline, 25' AGL/725' MSL.  
OL antenna 996' from DER, 304' right of centerline, 67' AGL/767' MSL.  
Light pole 1328' from DER, 222' left of centerline, 50' AGL/747' MSL.  
Building 2049' from DER, 837' right of centerline, 57' AGL/761' MSL.  
Flagpole 2333' from DER, 199' left of centerline, 78' AGL/778' MSL.  
Stack 1.8 NM from DER, 635' left of centerline, 569' AGL/1279' MSL.
- RWY 32: Road and vehicle 211' from DER, 482' left of centerline, 17' AGL/717' MSL.  
Railroad beginning 369' from DER, 329' left of centerline, up to 23' AGL/727' MSL.  
Pipe on DME 383' from DER, 269' right of centerline, 17' AGL/722' MSL.  
Tree 1152' from DER, 209' left of centerline, 44' AGL/744' MSL.  
Tree 1685' from DER, 277' right of centerline, 75' AGL/770' MSL.  
Sign 5668' from DER, 1924' left of centerline, 86' AGL/874' MSL.  
Trees 5614' from DER, 1796' right of centerline, 100' AGL/939' MSL.  
Building 5779' from DER, 1733' right of centerline, 72' AGL/910' MSL.  
Pole 1 NM from DER, 1835' right of centerline, 157' AGL/973' MSL.  
Building 1.1 NM from DER, 2170' left of centerline, 122' AGL/886' MSL.  
Multiple buildings beginning 1.1 NM from DER, 378' left of centerline, up to 142' AGL/918' MSL.





▽

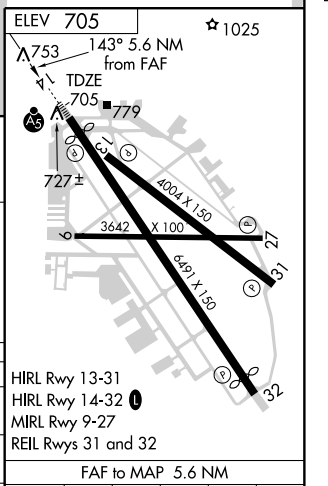
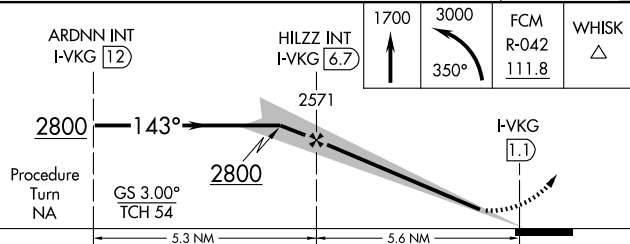
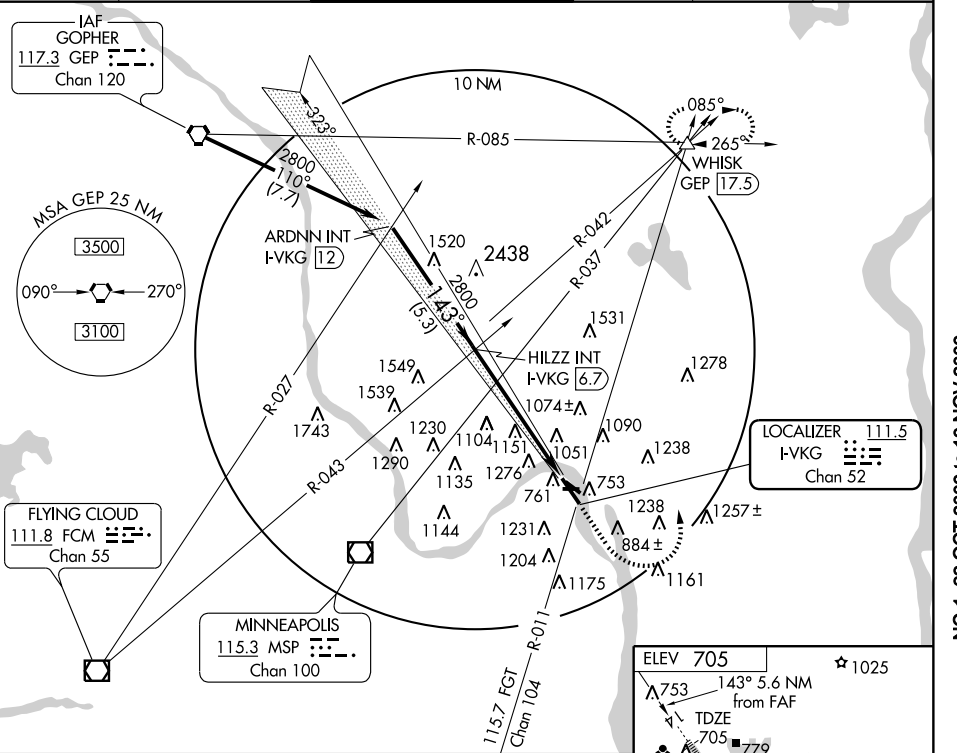
▲

Visibility reduction by helicopters NA.

MALSR

MISSED APPROACH: Climb to 1700 then climbing left turn to 3000 via heading 350° and FCM VOR/DME R-042 to WHISK Int and hold.

ATIS 118.35	MINNEAPOLIS APP CON 121.2 357.4	ST. PAUL TOWER ★ 119.1 (CTAF) 257.8	GND CON 121.675	CLNC DEL 121.675	UNICOM 122.95
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CATEGORY	A	B	C	D	
S-ILS 14	955-3/4 250 (300-3/4)				
S-LOC 14	1360-1 655 (700-1)	1360-1 655 (700-1 3/4)	1360-2 655 (700-2)	1360-2 655 (700-2)	
CIRCLING	1580-1 875 (900-1)	1580-1 875 (900-1 1/4)	1580-2 875 (900-2 1/2)	1580-2 875 (900-2 3/4)	

FAF to MAP 5.6 NM

Knots	60	90	120	150	180
Min:Sec	5:36	3:44	2:48	2:14	1:52

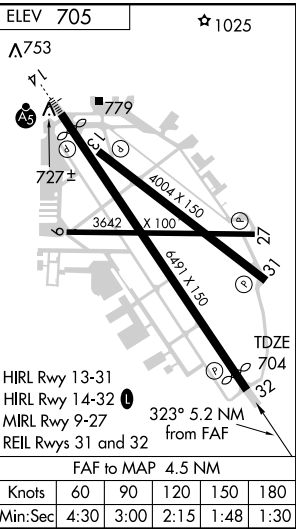
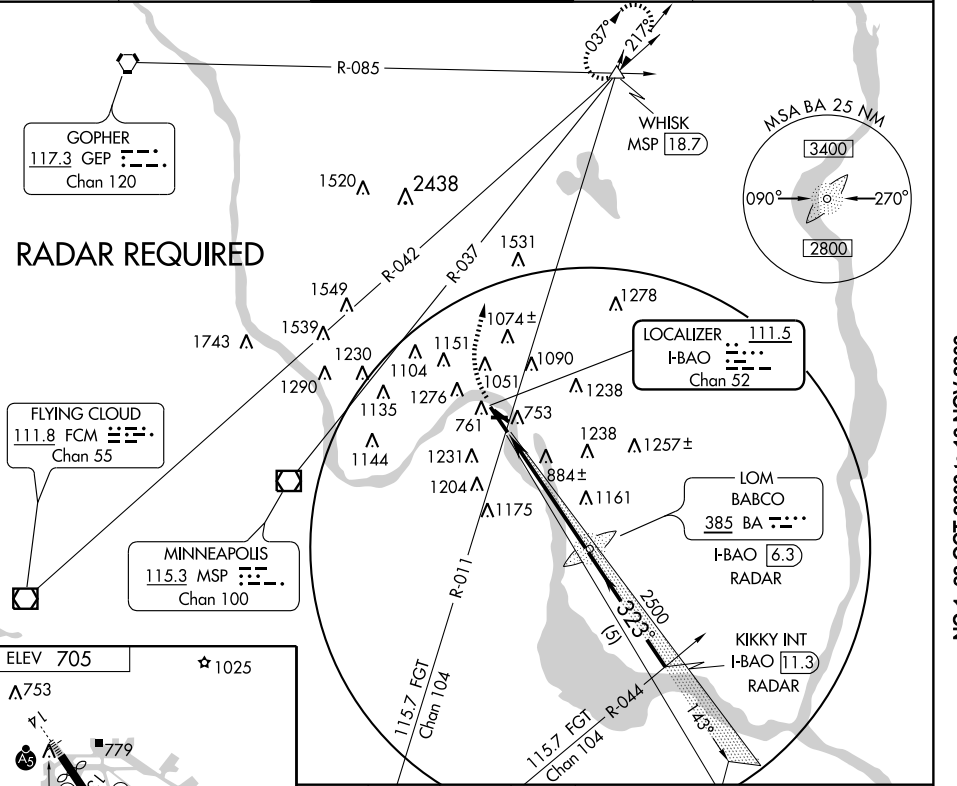
NC-1: 22 OCT 2009 to 19 NOV 2009


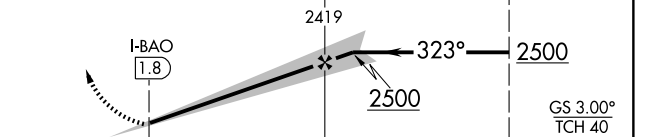
LOC/DME I-BAO	APP CRS	Rwy Idg	6109
111.5	323°	TDZE	704
Chan 52		Apt Elev	705

▼  
▲

MISSED APPROACH: Climb to 1200 then climbing right turn to 4000 heading 010° and MSP R-037 to WHISK INT/MSP 18.7 DME and hold.

ATIS 118.35	MINNEAPOLIS APP CON 121.2 357.4	ST. PAUL TOWER ★ 119.1 (CTAF) 0 257.8	GND CON 121.675	CLNC DEL 121.675	UNICOM 122.95
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1200 ↑	4000  010°	MSP R-037 <u>115.3</u>	WHISK △	BABCO LOM I-BAO <u>6.3</u> RADAR	KIKKY INT I-BAO <u>11.3</u> RADAR
					
CATEGORY	A	B	C	D	
S-ILS 32	954-1 250 (300-1)				
S-LOC 32	1280-1	576 (600-1)	1280-1½ 576 (600-1½)	1280-1¾ 576 (600-1¾)	
CIRCLING	1580-1 875 (900-1)	1580-1¼ 875 (900-1¼)	1580-2½ 875 (900-2½)	1580-2¾ 875 (900-2¾)	

NC-1: 22 OCT 2009 to 19 NOV 2009

## KBREW TWO DEPARTURE

ST. PAUL DOWNTOWN HOLMAN FIELD (STP)

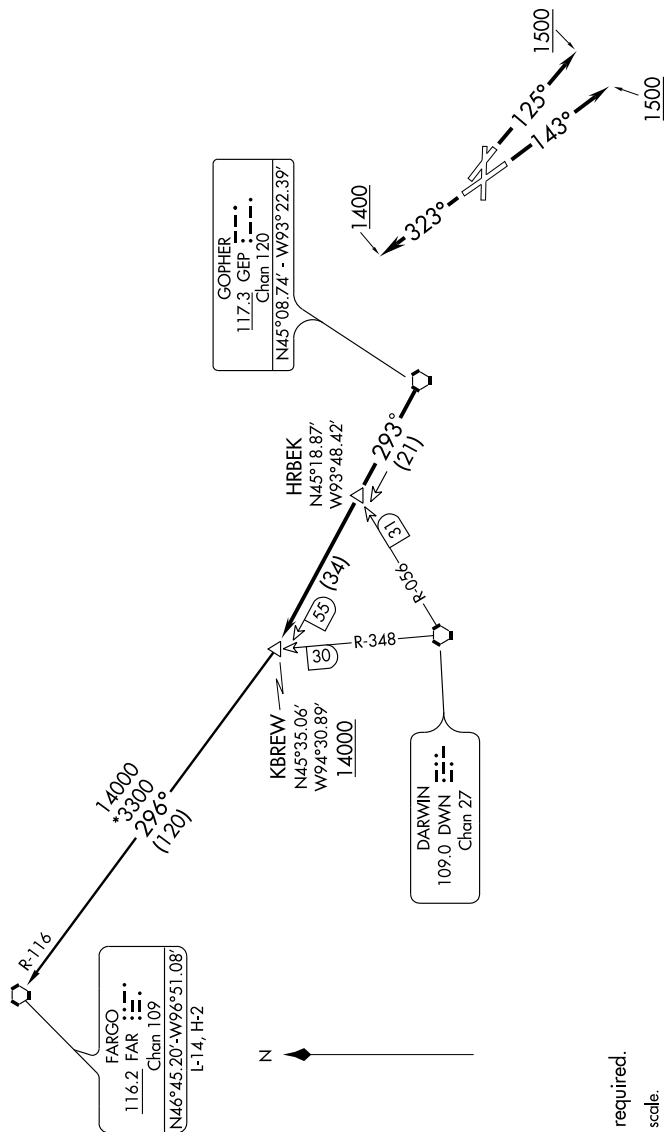
SL-263 (FAA)

ST. PAUL, MINNESOTA

ATIS 118.35  
CLNC DEL  
121.6/5  
MINNEAPOLIS DEP CON  
121.2 357.4

## TAKE-OFF MINIMUMS

- Rwy 31: NA-obstacles.  
Rwy 9: Standard with minimum climb of 346' per NM to 1500.  
Rwy 13: Standard with minimum climb of 266' per NM to 1500.  
Rwy 14: Standard with minimum climb of 216' per NM to 1500.  
Rwy 27: Standard with minimum climb of 436' per NM to 1500.  
Rwy 32: Standard with minimum climb of 340' per NM to 3000.



NOTE: RADAR required.

NOTE: Chart not to scale.

(NARRATIVE ON FOLLOWING PAGE)



## DEPARTURE ROUTE DESCRIPTION

TAKE-OFF RUNWAYS 9, 27: Fly assigned heading and altitude for radar vectors to GEP VORTAC then via GEP R-293 to KBREW INT/ GEP 55 DME, thence....

TAKE-OFF RUNWAY 13: Climb heading 125° to 1500 for radar vectors to GEP VORTAC then via GEP R-293 to KBREW INT/ GEP 55 DME, thence....

TAKE-OFF RUNWAY 14: Climb heading 143° to 1500 for radar vectors to GEP VORTAC then via GEP R-293 to KBREW INT/ GEP 55 DME, thence....

TAKE-OFF RUNWAY 32: Climb heading 323° to 1400 for radar vectors to GEP VORTAC then via GEP R-293 to KBREW INT/ GEP 55 DME, thence....

....via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

FARGO TRANSITION (KBREW2.FAR): From over KBREW INT via FAR R-116 to FAR VORTAC.

## TAKE-OFF OBSTACLE NOTES

- RWY 9: Multiple trees beginning 1265' from DER, 167' right of centerline, up to 75' AGL/1055' MSL.  
Multiple trees beginning 1.1 NM from DER, 124' left of centerline, up to 100' AGL/1099' MSL.  
OL tank 1571' from DER, 771' right of centerline, 50' AGL/811' MSL.  
Mobile crane 1163' from DER, 123' left of centerline, 50' AGL/758' MSL.
- RWY 13: OL stack 2695' from DER, 842' right of centerline, 50' AGL/820' MSL.  
Tree 1563' from DER, 25' right of centerline, 61' AGL/748' MSL.  
Multiple trees beginning 1004' from DER, 607' left of centerline, 50' AGL/767' MSL.  
Tower 1725' from DER, 930' left of centerline, 47' AGL/753' MSL.  
Vent on building 3029' from DER, 629' right of centerline, 10' AGL/783' MSL.  
Multiple bushes beginning 194' from DER, 88' left of centerline, 7' AGL/712' MSL.  
Stack 1879' from DER, 25' left of centerline, 51' AGL/751' MSL.
- RWY 14: Multiple trees beginning 805' from DER, 2' right of centerline, up to 112' AGL/811' MSL.  
Multiple trees beginning 1205' from DER, 64' left of centerline, up to 80' AGL/770' MSL.  
Poles 2810' from DER, 715' right of centerline, 91' AGL/778' MSL.
- RWY 27: Multiple trees beginning 803' from DER, 122' left of centerline, up to 100' AGL/994' MSL.  
Tree 783' from DER, 105' right of centerline, 25' AGL/725' MSL.  
OL antenna 996' from DER, 304' right of centerline, 67' AGL/767' MSL.  
Light pole 1328' from DER, 222' left of centerline, 50' AGL/747' MSL.  
Building 2049' from DER, 837' right of centerline, 57' AGL/761' MSL.  
Flagpole 2333' from DER, 199' left of centerline, 78' AGL/778' MSL.  
Stack 1.8 NM from DER, 635' left of centerline, 569' AGL/1279' MSL.
- RWY 32: Road and vehicle 211' from DER, 482' left of centerline, 17' AGL/717' MSL.  
Railroad beginning 369' from DER, 329' left of centerline, up to 23' AGL/727' MSL.  
Pipe on DME 383' from DER, 269' right of centerline, 17' AGL/722' MSL.  
Tree 1152' from DER, 209' left of centerline, 44' AGL/744' MSL.  
Tree 1685' from DER, 277' right of centerline, 75' AGL/770' MSL.  
Sign 5668' from DER, 1924' left of centerline, 86' AGL/874' MSL.  
Trees 5614' from DER, 1796' right of centerline, 100' AGL/939' MSL.  
Building 5779' from DER, 1733' right of centerline, 72' AGL/910' MSL.  
Pole 1 NM from DER, 1835' right of centerline, 157' AGL/973' MSL.  
Building 1.1 NM from DER, 2170' left of centerline, 122' AGL/886' MSL.  
Multiple buildings beginning 1.1 NM from DER, 378' left of centerline, up to 142' AGL/918' MSL.



NDB PPI	APP CRS	Rwy Idg	<b>4004</b>
<b><u>400</u></b>	<b>304°</b>	TDZE	<b>704</b>
		Apt Elev	<b>705</b>

NDB RWY 31

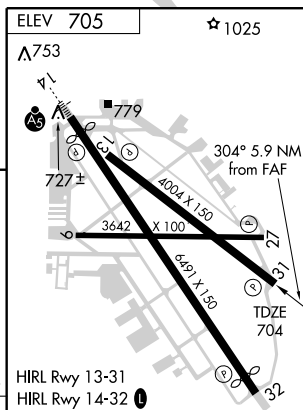
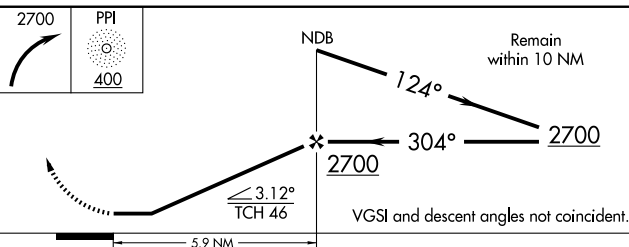
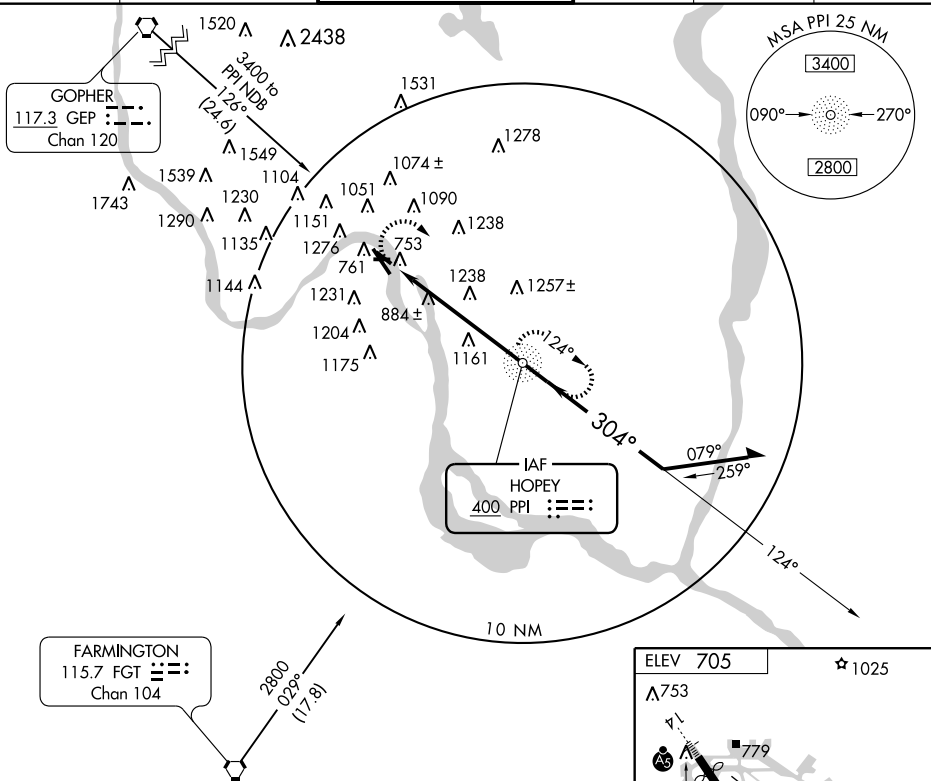
ST. PAUL DOWNTOWN HOLMAN FIELD (STP)



**ANA**

**MISSED APPROACH:** Climbing right turn to 2700 direct PPI NDB and hold.

ATIS	MINNEAPOLIS APP CON	ST. PAUL TOWER ★	GND CON	CLNC DEL	UNICOM
118.35	121.2 357.4	119.1 (CTAF) 125.8	121.675	121.675	122.95



CATEGORY	A	B	C	D
S-31	1600-1¼	896 (900-1¼)	1600-2¾ 896 (900-2¾)	1600-3 896 (900-3)
CIRCLING	1600-1¼	895 (900-1¼)	1600-2¾ 895 (900-2¾)	1600-3 895 (900-3)

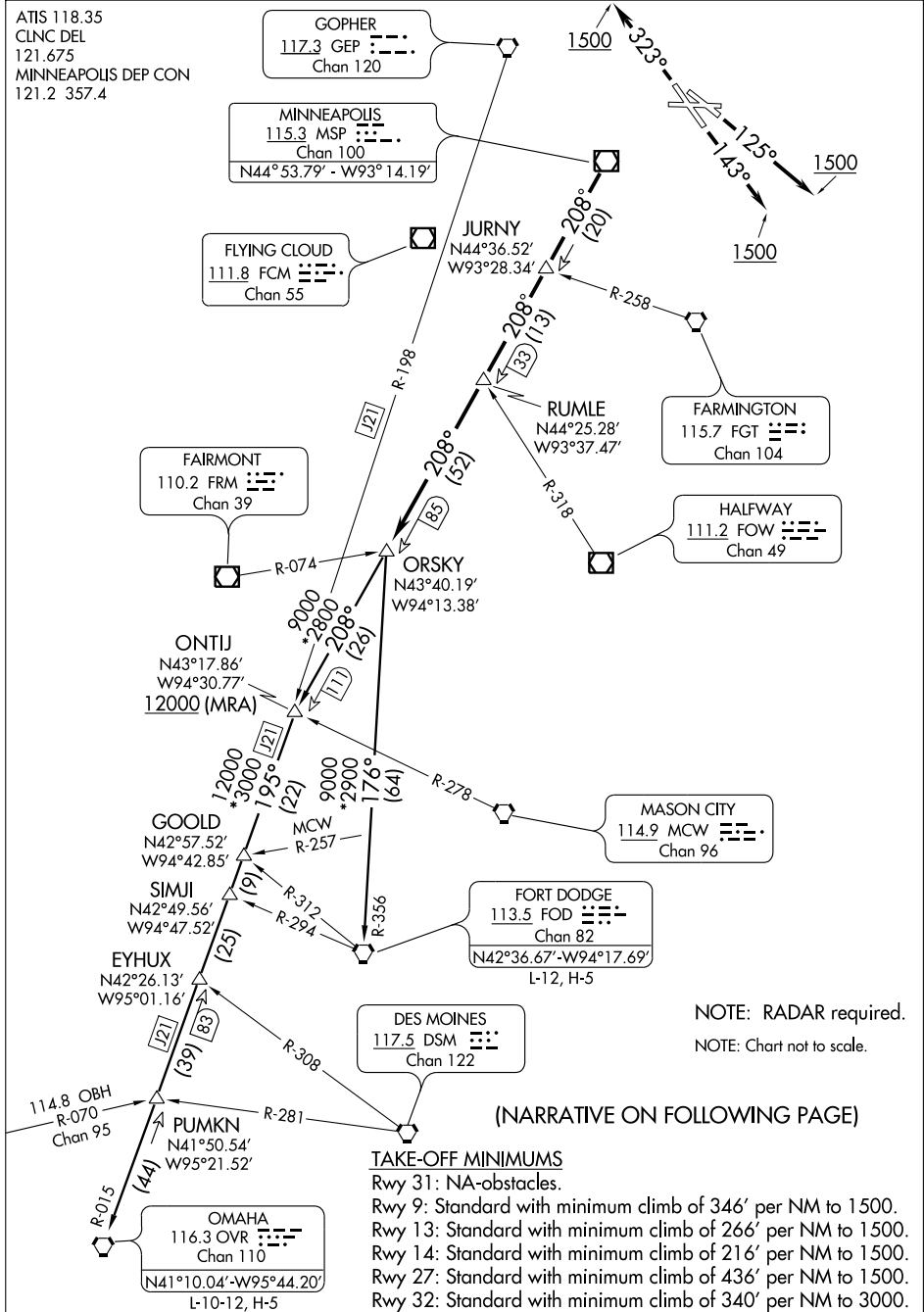
MIRL Rwy 9-27					
REIL Rwy 31 and 32					
FAF to MAP 5.9 NM					
Knots	60	90	120	150	180
Min:Sec	5:54	3:56	2:57	2:22	1:58

## ORSKY THREE DEPARTURE

ST. PAUL DOWNTOWN HOLMAN FIELD (STP)

SL-263 (FAA)

ST. PAUL, MINNESOTA



## ORSKY THREE DEPARTURE

ST. PAUL DOWNTOWN HOLMAN FIELD (STP)

SL-263 (FAA)

ST. PAUL, MINNESOTA



## DEPARTURE ROUTE DESCRIPTION

TAKE-OFF RUNWAYS 9, 27: Fly assigned heading and altitude for radar vectors to MSP VOR/DME then via MSP R-208 to ORSKY INT/ MSP 85 DME, thence....

TAKE-OFF RUNWAY 13: Climb heading 125° to 1500 for radar vectors to MSP VOR/DME then via MSP R-208 to ORSKY INT/ MSP 85 DME, thence....

TAKE-OFF RUNWAY 14: Climb heading 143° to 1500 for radar vectors to MSP VOR/DME then via MSP R-208 to ORSKY INT/ MSP 85 DME, thence....

TAKE-OFF RUNWAY 32: Climb heading 323° to 1500 for radar vectors to MSP VOR/DME then via MSP R-208 to ORSKY INT/ MSP 85 DME, thence....

...via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

FORT DODGE TRANSITION (ORSKY3.FOD): From over ORSKY INT via FOD R-356 to FOD VORTAC.

OMAHA TRANSITION (ORSKY3.OVR): From over ORSKY INT via MSP R-208 to ONTIJ INT then via OVR R-015 to OVR VORTAC.

## TAKE-OFF OBSTACLE NOTES

- RWY 9: Multiple trees beginning 1265' from DER, 167' right of centerline, up to 75' AGL/1055' MSL.  
Multiple trees beginning 1.1 NM from DER, 124' left of centerline, up to 100' AGL/1099' MSL.  
OL tank 1571' from DER, 771' right of centerline, 50' AGL/811' MSL.  
Mobile crane 1163' from DER, 123' left of centerline, 50' AGL/758' MSL.
- RWY 13: OL stack 2695' from DER, 842' right of centerline, 50' AGL/820' MSL.  
Tree 1563' from DER, 25' right of centerline, 61' AGL/748' MSL.  
Multiple trees beginning 1004' from DER, 607' left of centerline, 50' AGL/767' MSL.  
Tower 1725' from DER, 930' left of centerline, 47' AGL/753' MSL.  
Vent on building 3029' from DER, 629' right of centerline, 10' AGL/783' MSL.  
Multiple bushes beginning 194' from DER, 88' left of centerline, 7' AGL/712' MSL.  
Stack 1879' from DER, 25' left of centerline, 51' AGL/751' MSL.
- RWY 14: Multiple trees beginning 805' from DER, 2' right of centerline, up to 112' AGL/811' MSL.  
Multiple trees beginning 1205' from DER, 64' left of centerline, up to 80' AGL/770' MSL.  
Poles 2810' from DER, 715' right of centerline, 91' AGL/778' MSL.
- RWY 27: Multiple trees beginning 803' from DER, 122' left of centerline, up to 100' AGL/994' MSL.  
Tree 783' from DER, 105' right of centerline, 25' AGL/725' MSL.  
OL antenna 996' from DER, 304' right of centerline, 67' AGL/767' MSL.  
Light pole 1328' from DER, 222' left of centerline, 50' AGL/747' MSL.  
Building 2049' from DER, 837' right of centerline, 57' AGL/761' MSL.  
Flagpole 2333' from DER, 199' left of centerline, 78' AGL/778' MSL.  
Stack 1.8 NM from DER, 635' left of centerline, 569' AGL/1279' MSL.
- RWY 32: Road and vehicle 211' from DER, 482' left of centerline, 17' AGL/717' MSL.  
Railroad beginning 369' from DER, 329' left of centerline, up to 23' AGL/727' MSL.  
Pipe on DME 383' from DER, 269' right of centerline, 17' AGL/722' MSL.  
Tree 1152' from DER, 209' left of centerline, 44' AGL/744' MSL.  
Tree 1685' from DER, 277' right of centerline, 75' AGL/770' MSL.  
Sign 5668' from DER, 1924' left of centerline, 86' AGL/874' MSL.  
Trees 5614' from DER, 1796' right of centerline, 100' AGL/939' MSL.  
Building 5779' from DER, 1733' right of centerline, 72' AGL/910' MSL.  
Pole 1 NM from DER, 1835' right of centerline, 157' AGL/973' MSL.  
Building 1.1 NM from DER, 2170' left of centerline, 122' AGL/886' MSL.  
Multiple buildings beginning 1.1 NM from DER, 378' left of centerline, up to 142' AGL/918' MSL.

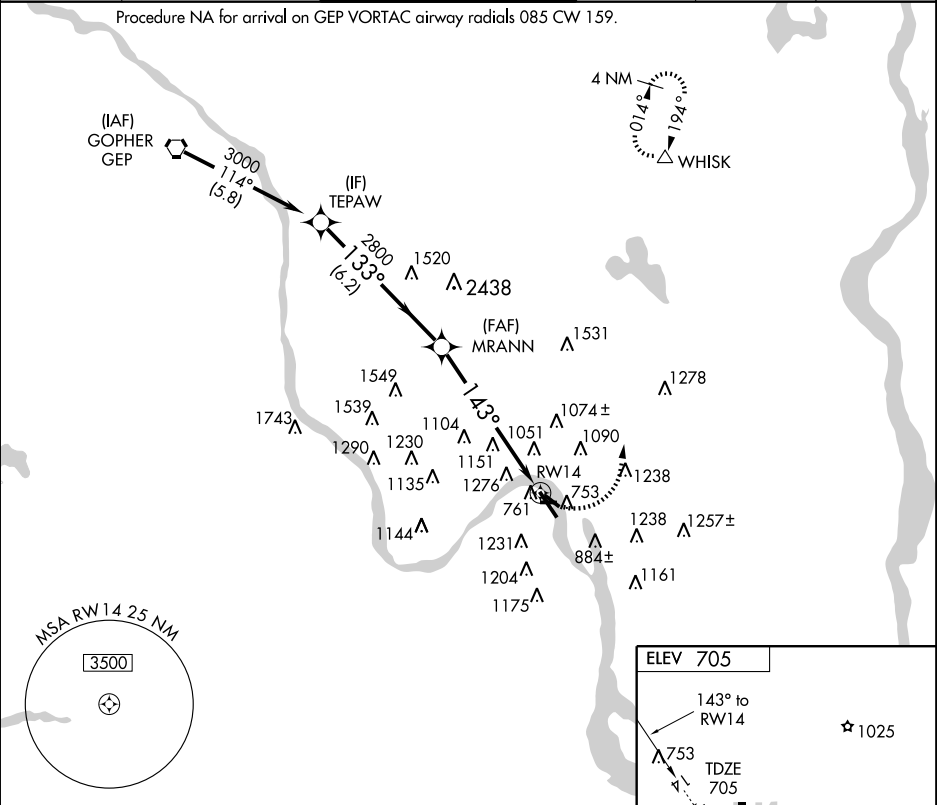
APP CRS	Rwy Idg	6148
143°	TDZE	705
	Apt Elev	705

RNAV (GPS) RWY 14

ST. PAUL DOWNTOWN HOLMAN FIELD (STP)

 	DME/DME RNP-0.3 NA. Circling to Rwy 9, 13, 27 NA at night. Straight-in minimums NA at night.	MALSR 	MISSED APPROACH: Climbing left turn to 3000 direct WHISK and hold.
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ATIS 118.35	MINNEAPOLIS APP CON 121.2 357.4	ST. PAUL TOWER ★ 119.1 (CTAF) 0 257.8	GND CON 121.675	CLNC DEL 121.675	UNICOM 122.95
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TEPAW

3000

Procedure Turn NA

133°

2800

3.05° TCH 54

MRANN

143°

2.4 NM to RW13

RW14

6.2 NM

3.9 NM

2.4 NM

3000

WHISK

VGSI and descent angles not coincident.

3000

WHISK

△

CATEGORY	A	B	C	D
RNAV MDA	1520-1 815 (900-1)	1520-1¼ 815 (900-1¼)	1520-2½ 815 (900-2½)	1520-2¾ 815 (900-2¾)
CIRCLING	1580-1 875 (900-1)	1580-1¼ 875 (900-1¼)	1580-2½ 875 (900-2½)	1580-2¾ 875 (900-2¾)

Diagram illustrating the final approach to RW14, showing the 143° to RW14 heading, TDZE 705, and various altitudes and distances.

Key features and distances:

- Altitude: 727 ±
- Distance to RW14: 2.4 NM
- Distance to RW13: 2.4 NM
- Distance to RW14 (dashed line): 2.4 NM
- Distance to RW14 (dotted line): 2.4 NM
- Distance to RW14 (solid line): 2.4 NM
- Distance to RW14 (dashed line): 2.4 NM
- Distance to RW14 (dotted line): 2.4 NM
- Distance to RW14 (solid line): 2.4 NM
- Distance to RW14 (dashed line): 2.4 NM
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- Distance to RW14 (solid line): 2.4 NM
- Distance to RW14 (dashed line): 2.4 NM
- Distance to RW14 (dotted line): 2.4 NM
- Distance to RW14 (solid line): 2.4 NM
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- Distance to RW14 (dashed line): 2.4 NM
- Distance to RW14 (dotted line): 2.4 NM
- Distance to RW14 (solid line): 2.4 NM
- Distance to RW14 (dashed line): 2.4

WAAS

CH 50123

W32A

APP CRS

323°

Rwy Idg

TDZE

Apt Elev

6109

704

705

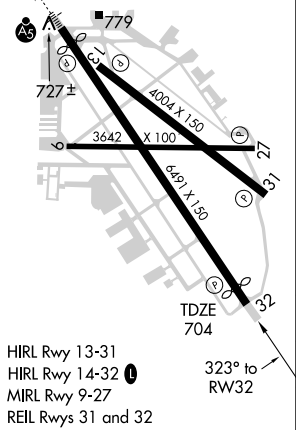
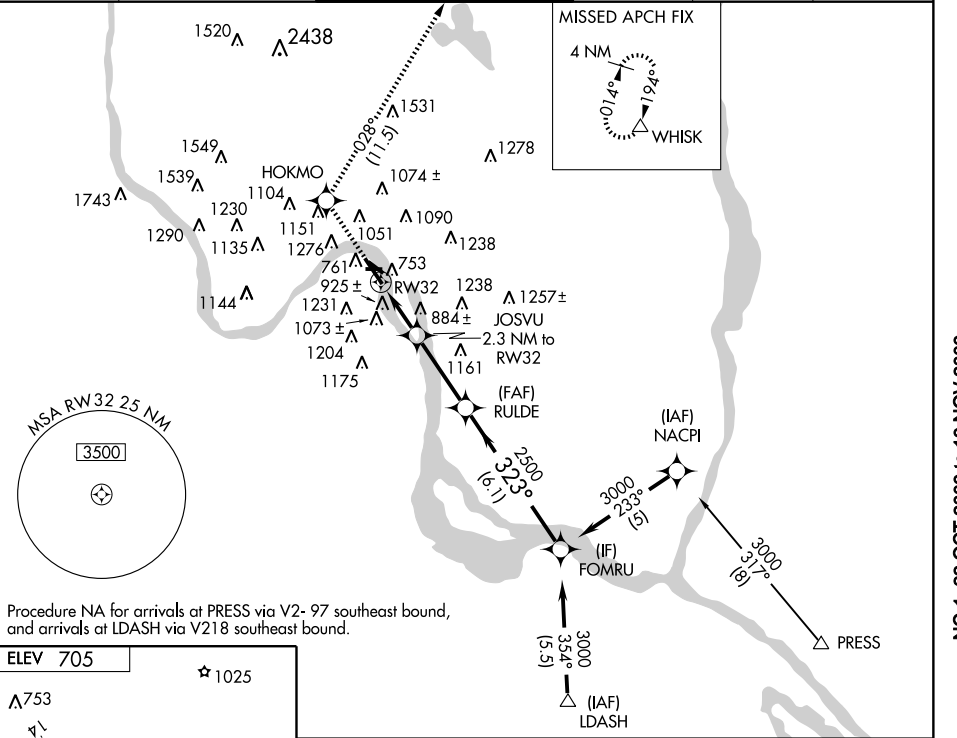
▽

▷

DME/DME RNP-0.3 NA.  
Baro-VNAV NA below -16°C (4°F).  
Circling to Rwy 9, 13, 27 NA at night.

MISSED APPROACH: Climb to 3000 direct HOKMO  
and via 028° track to WHISK and hold.

ATIS 118.35	MINNEAPOLIS APP CON 121.2 357.4	ST. PAUL TOWER ★ 119.1 (CTAF) 0 257.8	GND CON 121.675	CLNC DEL 121.675	UNICOM 122.95
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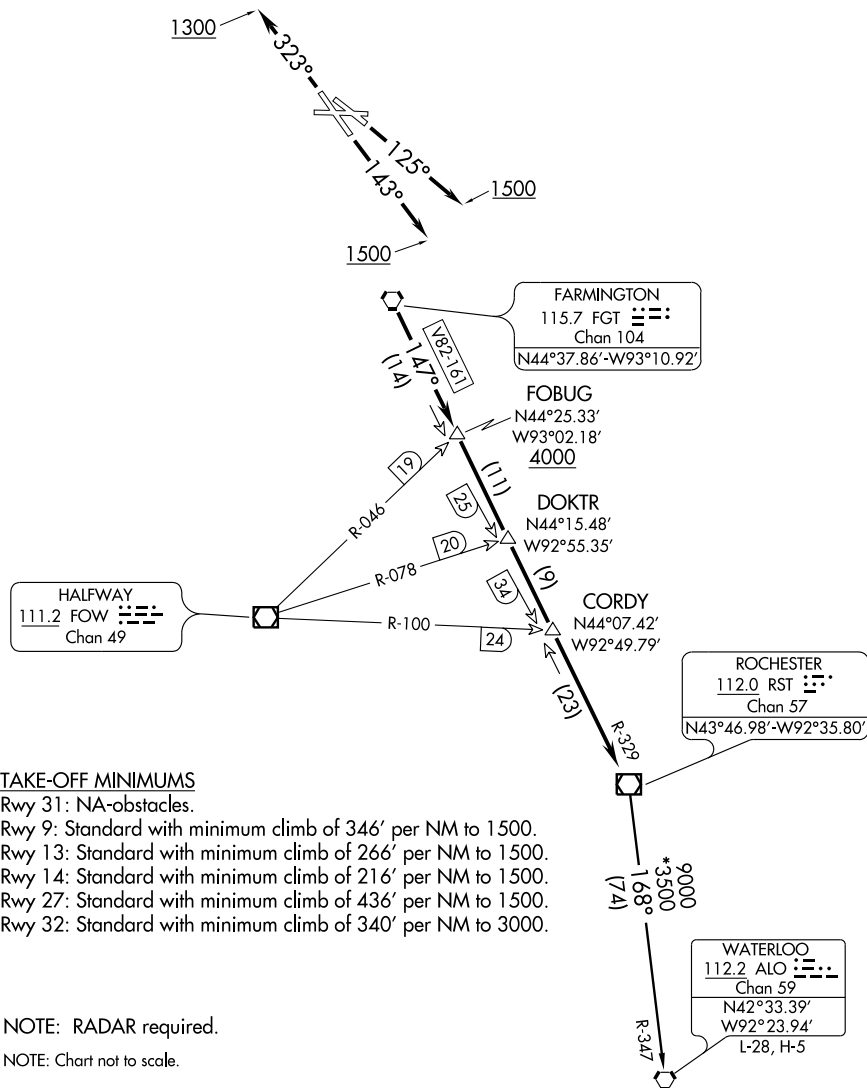
3000	HOKMO	028° Track	WHISK	FOMRU
↑	★		△	
	JOSVU 2.3 NM to RW32		RULDE	3000
				Procedure Turn NA GS 3.00° TCH 45
	RW32			
	1480	2500		
	2.3 NM	3.1 NM	6.1 NM	
CATEGORY	A	B	C	D
LPV DA	1082-1¼ 378 (400-1¼)			
LNAV/VNAV DA	1377-2½ 673 (700-2½)			
LNAV MDA	1320-1	616 (700-1)	1320-1¾ 616 (700-1¾)	1320-2 616 (700-2)
CIRCLING	1580-2½ 875 (900-2½)			1580-2¾ 875 (900-2¾)

NC-1: 22 OCT 2009 to 19 NOV 2009

# ROCHESTER THREE DEPARTURE

ST. PAUL DOWNTOWN HOLMAN FIELD (STP)  
SL-263 (FAA)  
ST. PAUL, MINNESOTA

ATIS 118.35  
CLNC DEL  
121.675  
MINNEAPOLIS DEP CON  
121.2 357.4



(NARRATIVE ON FOLLOWING PAGE)



## DEPARTURE ROUTE DESCRIPTION

TAKE-OFF RUNWAYS 9, 27: Fly assigned heading and altitude for radar vectors to FGT VORTAC then via FGT R-147 and RST R-329 to RST VOR/DME. Cross FOBUG INT/ FGT 14 DME at or above 4000, thence....

TAKE-OFF RUNWAY 13: Climb heading 125° to 1500 for radar vectors to FGT VORTAC then via FGT R-147 and RST R-329 to RST VOR/DME. Cross FOBUG INT/FGT 14 DME at or above 4000, thence....

TAKE-OFF RUNWAY 14: Climb heading 143° to 1500 for radar vectors to FGT VORTAC then via FGT R-147 and RST R-329 to RST VOR/DME. Cross FOBUG INT/ FGT 14 DME at or above 4000, thence....

TAKE-OFF RUNWAY 32: Climb heading 323° to 1300 for radar vectors to FGT VORTAC then via FGT R-147 and RST R-329 to RST VOR/DME. Cross FOBUG INT/ FGT 14 DME at or above 4000, thence....

...via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

WATERLOO TRANSITION (RST3.ALO): From over RST VOR/DME via RST R-168 and ALO R-347 to ALO VORTAC.

TAKE-OFF OBSTACLE NOTES

- RWY 9: Multiple trees beginning 1265' from DER, 167' right of centerline, up to 75' AGL/1055' MSL.  
Multiple trees beginning 1.1 NM from DER, 124' left of centerline, up to 100' AGL/1099' MSL.  
OL tank 1571' from DER, 771' right of centerline, 50' AGL/811' MSL.  
Mobile crane 1163' from DER, 123' left of centerline, 50' AGL/758' MSL.
- RWY 13: OL stack 2695' from DER, 842' right of centerline, 50' AGL/820' MSL.  
Tree 1563' from DER, 25' right of centerline, 61' AGL/748' MSL.  
Multiple trees beginning 1004' from DER, 607' left of centerline, 50' AGL/767' MSL.  
Tower 1725' from DER, 930' left of centerline, 47' AGL/753' MSL.  
Vent on building 3029' from DER, 629' right of centerline, 10' AGL/783' MSL.  
Multiple bushes beginning 194' from DER, 88' left of centerline, 7' AGL/712' MSL.  
Stack 1879' from DER, 25' left of centerline, 51' AGL/751' MSL.
- RWY 14: Multiple trees beginning 805' from DER, 2' right of centerline, up to 112' AGL/811' MSL.  
Multiple trees beginning 1205' from DER, 64' left of centerline, up to 80' AGL/770' MSL.  
Poles 2810' from DER, 715' right of centerline, 91' AGL/778' MSL.
- RWY 27: Multiple trees beginning 803' from DER, 122' left of centerline, up to 100' AGL/994' MSL.  
Tree 783' from DER, 105' right of centerline, 25' AGL/725' MSL.  
OL antenna 996' from DER, 304' right of centerline, 67' AGL/767' MSL.  
Light pole 1328' from DER, 222' left of centerline, 50' AGL/747' MSL.  
Building 2049' from DER, 837' right of centerline, 57' AGL/761' MSL.  
Flagpole 2333' from DER, 199' left of centerline, 78' AGL/778' MSL.  
Stack 1.8 NM from DER, 635' left of centerline, 569' AGL/1279' MSL.
- RWY 32: Road and vehicle 211' from DER, 482' left of centerline, 17' AGL/717' MSL.  
Railroad beginning 369' from DER, 329' left of centerline, up to 23' AGL/727' MSL.  
Pipe on DME 383' from DER, 269' right of centerline, 17' AGL/722' MSL.  
Tree 1152' from DER, 209' left of centerline, 44' AGL/744' MSL.  
Tree 1685' from DER, 277' right of centerline, 75' AGL/770' MSL.  
Sign 5668' from DER, 1924' left of centerline, 86' AGL/874' MSL.  
Trees 5614' from DER, 1796' right of centerline, 100' AGL/939' MSL.  
Building 5779' from DER, 1733' right of centerline, 72' AGL/910' MSL.  
Pole 1 NM from DER, 1835' right of centerline, 157' AGL/973' MSL.  
Building 1.1 NM from DER, 2170' left of centerline, 122' AGL/886' MSL.  
Multiple buildings beginning 1.1 NM from DER, 378' left of centerline, up to 142' AGL/918' MSL.





## SCHEP TWO DEPARTURE



## DEPARTURE ROUTE DESCRIPTION

TAKE-OFF RUNWAYS 9, 27: Fly assigned heading and altitude for radar vectors to MSP VOR/DME then via MSP R-232 to SCHEP INT/ MSP 66 DME, thence....

TAKE-OFF RUNWAY 13: Climb heading 125° to 1500 for radar vectors to MSP VOR/DME then via MSP R-232 to SCHEP INT/ MSP 66 DME, thence....

TAKE-OFF RUNWAY 14: Climb heading 143° to 1500 for radar vectors to MSP VOR/DME then via MSP R-232 to SCHEP INT/ MSP 66 DME, thence....

TAKE-OFF RUNWAY 32: Climb heading 323° to 1400 for radar vectors to MSP VOR/DME then via MSP R-232 to SCHEP INT/ MSP 66 DME, thence....

...via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

O'NEILL TRANSITION (SCHEP2.ONL): From over SCHEP INT via OTG R-045 to OTG VOR/DME, then via OTG R-236 and ONL R-052 to ONL VORTAC.

WOLBACH TRANSITION (SCHEP2.OBH): From over SCHEP INT via OTG R-045 to OTG VOR/DME, then via OTG R-215 and OBH R-034 to OBH VORTAC.

## TAKE-OFF OBSTACLE NOTES

- RWY 9: Multiple trees beginning 1265' from DER, 167' right of centerline, up to 75' AGL/1055' MSL.  
Multiple trees beginning 1.1 NM from DER, 124' left of centerline, up to 100' AGL/1099' MSL.  
OL tank 1571' from DER, 771' right of centerline, 50' AGL/811' MSL.  
Mobile crane 1163' from DER, 123' left of centerline, 50' AGL/758' MSL.
- RWY 13: OL stack 2695' from DER, 842' right of centerline, 50' AGL/820' MSL.  
Tree 1563' from DER, 25' right of centerline, 61' AGL/748' MSL.  
Multiple trees beginning 1004' from DER, 607' left of centerline, 50' AGL/767' MSL.  
Tower 1725' from DER, 930' left of centerline, 47' AGL/753' MSL.  
Vent on building 3029' from DER, 629' right of centerline, 10' AGL/783' MSL.  
Multiple bushes beginning 194' from DER, 88' left of centerline, 7' AGL/712' MSL.  
Stack 1879' from DER, 25' left of centerline, 51' AGL/751' MSL.
- RWY 14: Multiple trees beginning 805' from DER, 2' right of centerline, up to 112' AGL/811' MSL.  
Multiple trees beginning 1205' from DER, 64' left of centerline, up to 80' AGL/770' MSL.  
Poles 2810' from DER, 715' right of centerline, 91' AGL/778' MSL.
- RWY 27: Multiple trees beginning 803' from DER, 122' left of centerline, up to 100' AGL/994' MSL.  
Tree 783' from DER, 105' right of centerline, 25' AGL/725' MSL.  
OL antenna 996' from DER, 304' right of centerline, 67' AGL/767' MSL.  
Light pole 1328' from DER, 222' left of centerline, 50' AGL/747' MSL.  
Building 2049' from DER, 837' right of centerline, 57' AGL/761' MSL.  
Flagpole 2333' from DER, 199' left of centerline, 78' AGL/778' MSL.  
Stack 1.8 NM from DER, 635' left of centerline, 569' AGL/1279' MSL.
- RWY 32: Road and vehicle 211' from DER, 482' left of centerline, 17' AGL/717' MSL.  
Railroad beginning 369' from DER, 329' left of centerline, up to 23' AGL/727' MSL.  
Pipe on DME 383' from DER, 269' right of centerline, 17' AGL/722' MSL.  
Tree 1152' from DER, 209' left of centerline, 44' AGL/744' MSL.  
Tree 1685' from DER, 277' right of centerline, 75' AGL/770' MSL.  
Sign 5668' from DER, 1924' left of centerline, 86' AGL/874' MSL.  
Trees 5614' from DER, 1796' right of centerline, 100' AGL/939' MSL.  
Building 5779' from DER, 1733' right of centerline, 72' AGL/910' MSL.  
Pole 1 NM from DER, 1835' right of centerline, 157' AGL/973' MSL.  
Building 1.1 NM from DER, 2170' left of centerline, 122' AGL/886' MSL.  
Multiple buildings beginning 1.1 NM from DER, 378' left of centerline, up to 142' AGL/918' MSL.

TWOLF ONE ARRIVAL

ST-264 (FAA)

MINNEAPOLIS, MINNESOTA

MINNEAPOLIS APP CON  
126.95 335.5  
118.72 (MSP RWY 35)  
ANOKA COUNTY ATIS 120.625  
CRYSTAL ATIS 124.475  
FLYING CLOUD ATIS 124.9  
MINNEAPOLIS ATIS  
135.35 239.275  
ST. PAUL DOWNTOWN ATIS  
118.35

GOPHER  
117.3 GEP :  
Chan 120

ANOKA COUNTY-BLAINE AIRPORT  
(JANES FIELD)



ST. PAUL DOWNTOWN  
HOLMAN FIELD

FLYING CLOUD

FLYING CLOUD  
111.8 FCM  $\begin{smallmatrix} \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot \end{smallmatrix}$   
Chan 55  
N44°49.54'-W93°27.4

SLIKK  
N44°47.90'  
W93°17.21'

FARMINGTON  
15.7 FGT  $\Xi = :$   
Chan 104  
 $^{\circ}37.86' - W93^{\circ}10.93'$

TRGET

N44°13.88'-W93°27.73'

## VERTICAL NAVIGATION PLANNING INFORMATION

MSP: Expect clearance to cross at 11 000'.

All other airports: Turbojet: Expect

clearance to cross at 8000'.

Turboprop: Expect clearance to cross at 7000'.


MANKATO  
110.8 MKT   
Chan 45

R-08

— LYNKS  
N44°06.89'  
W93°28.39'

KGEEE  
N43°44.94'  
W93°30.48'

TWOLF  
N43°17.00'  
W93°33.09'

FORT DODGE  
113.5 FOD   
Chan 82  
N42°36.67'-W94°17.69'  
L-12, H-5

TICKT  
N42°53.71'  
W93°59.01'

NOTE: RADAR required.

NOTE: DME required.

(NARRATIVE ON FOLLOWING PAGE)

NOTE: Chart not to scale.

## ARRIVAL DESCRIPTION

FORT DODGE TRANSITION (FOD.TWOLF1): From over FOD VORTAC via FOD R-032 to TWOLF. Thence....

....From over TWOLF via GEP R-178 to KGEER, then via GEP R-178 to TRGET INT, then via FGT R-201 to FGT VORTAC. Thence....

LANDING MSP RWYS 12L/R: From over FGT VORTAC via FGT R-330 to SLIKK, thence via 300° heading for radar vectors to final approach course.

LANDING MSP RWYS 30L/R, 4, 22, 17, 35: Via radar vectors to final approach course.

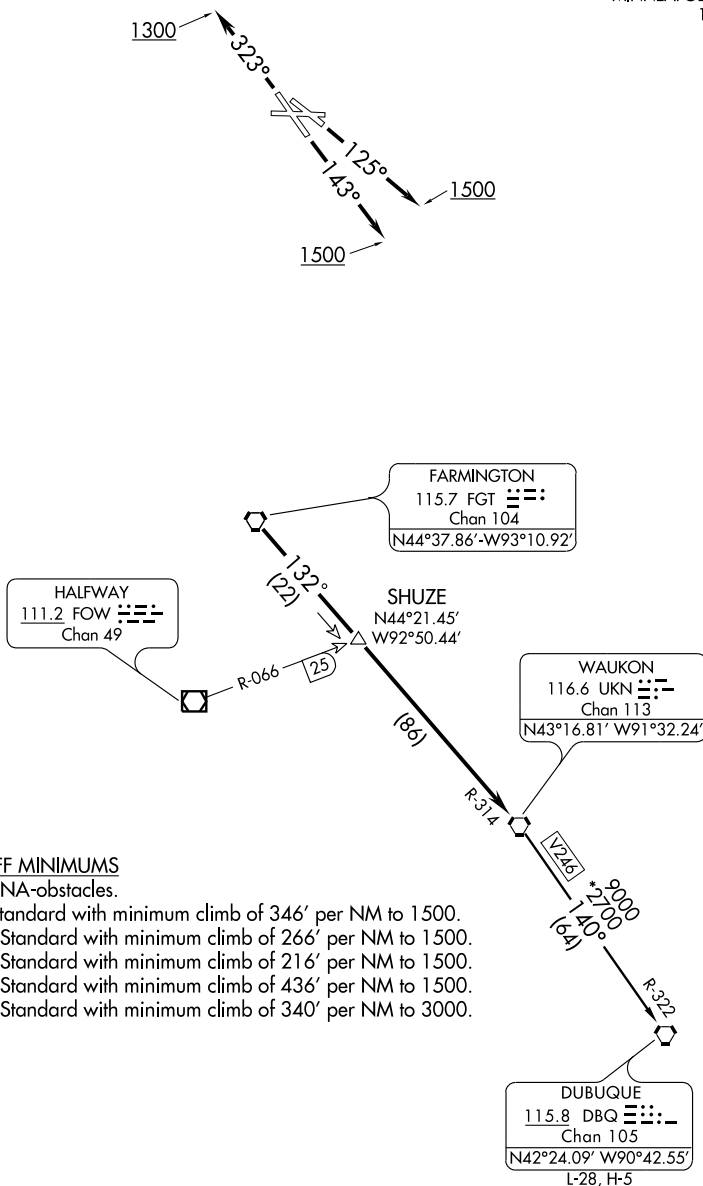
ALL OTHER AIRPORTS: From over TRGET INT via FCM VOR/DME R-174 to FCM VOR/DME then expect radar vectors to final approach course.

## WAUKON TWO DEPARTURE

ST. PAUL DOWNTOWN HOLMAN FIELD (STP)  
SL-263 (FAA)

ST. PAUL, MINNESOTA

ATIS 118.35  
 CLNC DEL  
 121.675  
 MINNEAPOLIS DEP CON  
 121.2 357.4



NOTE: RADAR required.

NOTE: Chart not to scale.

(NARRATIVE ON FOLLOWING PAGE)



## DEPARTURE ROUTE DESCRIPTION

TAKE-OFF RUNWAYS 9, 27: Fly assigned heading and altitude for radar vectors to FGT VORTAC then via FGT R-132 and UKN R-314 to UKN VORTAC, thence....

TAKE-OFF RUNWAY 13: Climb heading 125° to 1500 for radar vectors to FGT VORTAC then via FGT R-132 and UKN R-314 to UKN VORTAC, thence....

TAKE-OFF RUNWAY 14: Climb heading 143° to 1500 for radar vectors to FGT VORTAC then via FGT R-132 and UKN R-314 to UKN VORTAC, thence....

TAKE-OFF RUNWAY 32: Climb heading 323° to 1300 for radar vectors to FGT VORTAC then via FGT R-132 and UKN R-314 to UKN VORTAC, thence....

....via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

DUBUQUE TRANSITION (UKN2.DBQ): From over UKN VORTAC via UKN R-140 and DBQ R-322 to DBQ VORTAC.

## TAKE-OFF OBSTACLE NOTES

- RWY 9: Multiple trees beginning 1265' from DER, 167' right of centerline, up to 75' AGL/1055' MSL.  
Multiple trees beginning 1.1 NM from DER, 124' left of centerline, up to 100' AGL/1099' MSL.  
OL tank 1571' from DER, 771' right of centerline, 50' AGL/811' MSL.  
Mobile crane 1163' from DER, 123' left of centerline, 50' AGL/758' MSL.
- RWY 13: OL stack 2695' from DER, 842' right of centerline, 50' AGL/820' MSL.  
Tree 1563' from DER, 25' right of centerline, 61' AGL/748' MSL.  
Multiple trees beginning 1004' from DER, 607' left of centerline, 50' AGL/767' MSL.  
Tower 1725' from DER, 930' left of centerline, 47' AGL/753' MSL.  
Vent on building 3029' from DER, 629' right of centerline, 10' AGL/783' MSL.  
Multiple bushes beginning 194' from DER, 88' left of centerline, 7' AGL/712' MSL.  
Stack 1879' from DER, 25' left of centerline, 51' AGL/751' MSL.
- RWY 14: Multiple trees beginning 805' from DER, 2' right of centerline, up to 112' AGL/811' MSL.  
Multiple trees beginning 1205' from DER, 64' left of centerline, up to 80' AGL/770' MSL.  
Poles 2810' from DER, 715' right of centerline, 91' AGL/778' MSL.
- RWY 27: Multiple trees beginning 803' from DER, 122' left of centerline, up to 100' AGL/994' MSL.  
Tree 783' from DER, 105' right of centerline, 25' AGL/725' MSL.  
OL antenna 996' from DER, 304' right of centerline, 67' AGL/767' MSL.  
Light pole 1328' from DER, 222' left of centerline, 50' AGL/747' MSL.  
Building 2049' from DER, 837' right of centerline, 57' AGL/761' MSL.  
Flagpole 2333' from DER, 199' left of centerline, 78' AGL/778' MSL.  
Stack 1.8 NM from DER, 635' left of centerline, 569' AGL/1279' MSL.
- RWY 32: Road and vehicle 211' from DER, 482' left of centerline, 17' AGL/717' MSL.  
Railroad beginning 369' from DER, 329' left of centerline, up to 23' AGL/727' MSL.  
Pipe on DME 383' from DER, 269' right of centerline, 17' AGL/722' MSL.  
Tree 1152' from DER, 209' left of centerline, 44' AGL/744' MSL.  
Tree 1685' from DER, 277' right of centerline, 75' AGL/770' MSL.  
Sign 5668' from DER, 1924' left of centerline, 86' AGL/874' MSL.  
Trees 5614' from DER, 1796' right of centerline, 100' AGL/939' MSL.  
Building 5779' from DER, 1733' right of centerline, 72' AGL/910' MSL.  
Pole 1 NM from DER, 1835' right of centerline, 157' AGL/973' MSL.  
Building 1.1 NM from DER, 2170' left of centerline, 122' AGL/886' MSL.  
Multiple buildings beginning 1.1 NM from DER, 378' left of centerline, up to 142' AGL/918' MSL.



## WLSTN TWO DEPARTURE

ST. PAUL DOWNTOWN HOLMAN FIELD (STP)  
SL-263 (FAA) ST. PAUL, MINNESOTA

## DEPARTURE ROUTE DESCRIPTION

TAKE-OFF RUNWAYS 9, 27: Fly assigned heading and altitude for radar vectors to GEP R-072 to WLSTN/ GEP 102 DME, thence....

TAKE-OFF RUNWAY 13: Climb heading 125° to 1500 for radar vectors to GEP R-072 to WLSTN/ GEP 102 DME, thence....

TAKE-OFF RUNWAY 14: Climb heading 143° to 1500 for radar vectors to GEP R-072 to WLSTN/ GEP 102 DME, thence....

TAKE-OFF RUNWAY 32: Climb heading 323° to 1400 for radar vectors to GEP R-072 to WLSTN/ GEP 102 DME, thence....

....via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

GREEN BAY TRANSITION (WLSTN2.GRB): From over WLSTN INT via GRB R-295 to GRB VORTAC.

## TAKE-OFF OBSTACLE NOTES

- RWY 9: Multiple trees beginning 1265' from DER, 167' right of centerline, up to 75' AGL/1055' MSL.  
Multiple trees beginning 1.1 NM from DER, 124' left of centerline, up to 100' AGL/1099' MSL.  
OL tank 1571' from DER, 771' right of centerline, 50' AGL/811' MSL.  
Mobile crane 1163' from DER, 123' left of centerline, 50' AGL/758' MSL.
- RWY 13: OL stack 2695' from DER, 842' right of centerline, 50' AGL/820' MSL.  
Tree 1563' from DER, 25' right of centerline, 61' AGL/748' MSL.  
Multiple trees beginning 1004' from DER, 607' left of centerline, 50' AGL/767' MSL.  
Tower 1725' from DER, 930' left of centerline, 47' AGL/753' MSL.  
Vent on building 3029' from DER, 629' right of centerline, 10' AGL/783' MSL.  
Multiple bushes beginning 194' from DER, 88' left of centerline, 7' AGL/712' MSL.  
Stack 1879' from DER, 25' left of centerline, 51' AGL/751' MSL.
- RWY 14: Multiple trees beginning 805' from DER, 2' right of centerline, up to 112' AGL/811' MSL.  
Multiple trees beginning 1205' from DER, 64' left of centerline, up to 80' AGL/770' MSL.  
Poles 2810' from DER, 715' right of centerline, 91' AGL/778' MSL.
- RWY 27: Multiple trees beginning 803' from DER, 122' left of centerline, up to 100' AGL/994' MSL.  
Tree 783' from DER, 105' right of centerline, 25' AGL/725' MSL.  
OL antenna 996' from DER, 304' right of centerline, 67' AGL/767' MSL.  
Light pole 1328' from DER, 222' left of centerline, 50' AGL/747' MSL.  
Building 2049' from DER, 837' right of centerline, 57' AGL/761' MSL.  
Flagpole 2333' from DER, 199' left of centerline, 78' AGL/778' MSL.  
Stack 1.8 NM from DER, 635' left of centerline, 569' AGL/1279' MSL.
- RWY 32: Road and vehicle 211' from DER, 482' left of centerline, 17' AGL/717' MSL.  
Railroad beginning 369' from DER, 329' left of centerline, up to 23' AGL/727' MSL.  
Pipe on DME 383' from DER, 269' right of centerline, 17' AGL/722' MSL.  
Tree 1152' from DER, 209' left of centerline, 44' AGL/744' MSL.  
Tree 1685' from DER, 277' right of centerline, 75' AGL/770' MSL.  
Sign 5668' from DER, 1924' left of centerline, 86' AGL/874' MSL.  
Trees 5614' from DER, 1796' right of centerline, 100' AGL/939' MSL.  
Building 5779' from DER, 1733' right of centerline, 72' AGL/910' MSL.  
Pole 1 NM from DER, 1835' right of centerline, 157' AGL/973' MSL.  
Building 1.1 NM from DER, 2170' left of centerline, 122' AGL/886' MSL.  
Multiple buildings beginning 1.1 NM from DER, 378' left of centerline, up to 142' AGL/918' MSL.

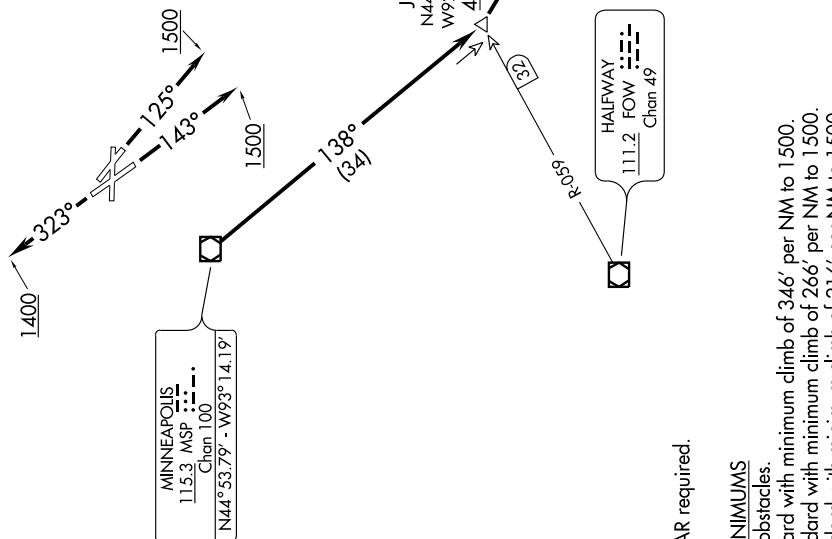
# ZMBRO TWO DEPARTURE

ST. PAUL DOWNTOWN HOLMAN FIELD (STP)

SL-263 (FAA)

ST. PAUL, MINNESOTA

ATIS 118.35  
CLNC DEL  
121.675  
MINNEAPOLIS DEP CON  
121.2 357.4





## ZMBRO TWO DEPARTURE

ST. PAUL DOWNTOWN HOLMAN FIELD (STP)

SL-263 (FAA)

ST. PAUL, MINNESOTA



## DEPARTURE ROUTE DESCRIPTION

TAKE-OFF RUNWAYS 9, 27: Fly assigned heading and altitude for radar vectors to MSP VOR/DME then via MSP R-138 to JEDET INT/MSP 34 DME, at or above 4000; then via ODI R-301 to ZMBRO INT/ODI 50 DME, thence....

TAKE-OFF RUNWAY 13: Climb heading 125° to 1500 for radar vectors to MSP VOR/DME then via MSP R-138 to JEDET INT/MSP 34 DME, at or above 4000; then via ODI R-301 to ZMBRO INT/ODI 50 DME, thence....

TAKE-OFF RUNWAY 14: Climb heading 143° to 1500 for radar vectors to MSP VOR/DME then via MSP R-138 to JEDET INT/MSP 34 DME, at or above 4000; then via ODI R-301 to ZMBRO INT/ODI 50 DME, thence....

TAKE-OFF RUNWAY 32: Climb heading 323° to 1400 for radar vectors to MSP VOR/DME then via MSP R-138 to JEDET INT/MSP 34 DME, at or above 4000; then via ODI R-301 to ZMBRO INT/ODI 50 DME, thence....

....via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

NODINE TRANSITION (ZMBRO2.ODI): From over ZMBRO INT via ODI R-301 to ODI VORTAC.

## TAKE-OFF OBSTACLE NOTES

- RWY 9: Multiple trees beginning 1265' from DER, 167' right of centerline, up to 75' AGL/1055' MSL.  
Multiple trees beginning 1.1 NM from DER, 124' left of centerline, up to 100' AGL/1099' MSL.  
OL tank 1571' from DER, 771' right of centerline, 50' AGL/811' MSL.  
Mobile crane 1163' from DER, 123' left of centerline, 50' AGL/758' MSL.
- RWY 13: OL stack 2695' from DER, 842' right of centerline, 50' AGL/820' MSL.  
Tree 1563' from DER, 25' right of centerline, 61' AGL/748' MSL.  
Multiple trees beginning 1004' from DER, 607' left of centerline, 50' AGL/767' MSL.  
Tower 1725' from DER, 930' left of centerline, 47' AGL/753' MSL.  
Vent on building 3029' from DER, 629' right of centerline, 10' AGL/783' MSL.  
Multiple bushes beginning 194' from DER, 88' left of centerline, 7' AGL/712' MSL.  
Stack 1879' from DER, 25' left of centerline, 51' AGL/751' MSL.
- RWY 14: Multiple trees beginning 805' from DER, 2' right of centerline, up to 112' AGL/811' MSL.  
Multiple trees beginning 1205' from DER, 64' left of centerline, up to 80' AGL/770' MSL.  
Poles 2810' from DER, 715' right of centerline, 91' AGL/778' MSL.
- RWY 27: Multiple trees beginning 803' from DER, 122' left of centerline, up to 100' AGL/994' MSL.  
Tree 783' from DER, 105' right of centerline, 25' AGL/725' MSL.  
OL antenna 996' from DER, 304' right of centerline, 67' AGL/767' MSL.  
Light pole 1328' from DER, 222' left of centerline, 50' AGL/747' MSL.  
Building 2049' from DER, 837' right of centerline, 57' AGL/761' MSL.  
Flagpole 2333' from DER, 199' left of centerline, 78' AGL/778' MSL.  
Stack 1.8 NM from DER, 635' left of centerline, 569' AGL/1279' MSL.
- RWY 32: Road and vehicle 211' from DER, 482' left of centerline, 17' AGL/717' MSL.  
Railroad beginning 369' from DER, 329' left of centerline, up to 23' AGL/727' MSL.  
Pipe on DME 383' from DER, 269' right of centerline, 17' AGL/722' MSL.  
Tree 1152' from DER, 209' left of centerline, 44' AGL/744' MSL.  
Tree 1685' from DER, 277' right of centerline, 75' AGL/770' MSL.  
Sign 5668' from DER, 1924' left of centerline, 86' AGL/874' MSL.  
Trees 5614' from DER, 1796' right of centerline, 100' AGL/939' MSL.  
Building 5779' from DER, 1733' right of centerline, 72' AGL/910' MSL.  
Pole 1 NM from DER, 1835' right of centerline, 157' AGL/973' MSL.  
Building 1.1 NM from DER, 2170' left of centerline, 122' AGL/886' MSL.  
Multiple buildings beginning 1.1 NM from DER, 378' left of centerline, up to 142' AGL/918' MSL.

NDB SAZ  
**257**

APP CRS  
133°

Rwy Idg	<b>3304</b>
TDZE	<b>1287</b>
Apt Elev	<b>1287</b>

NDB or GPS RWY 14  
STAPLES MUNI (SAZ)

STAPLES MUNI (SAZ)



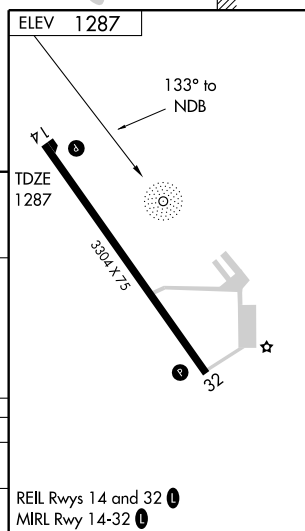
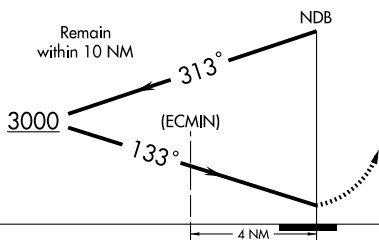
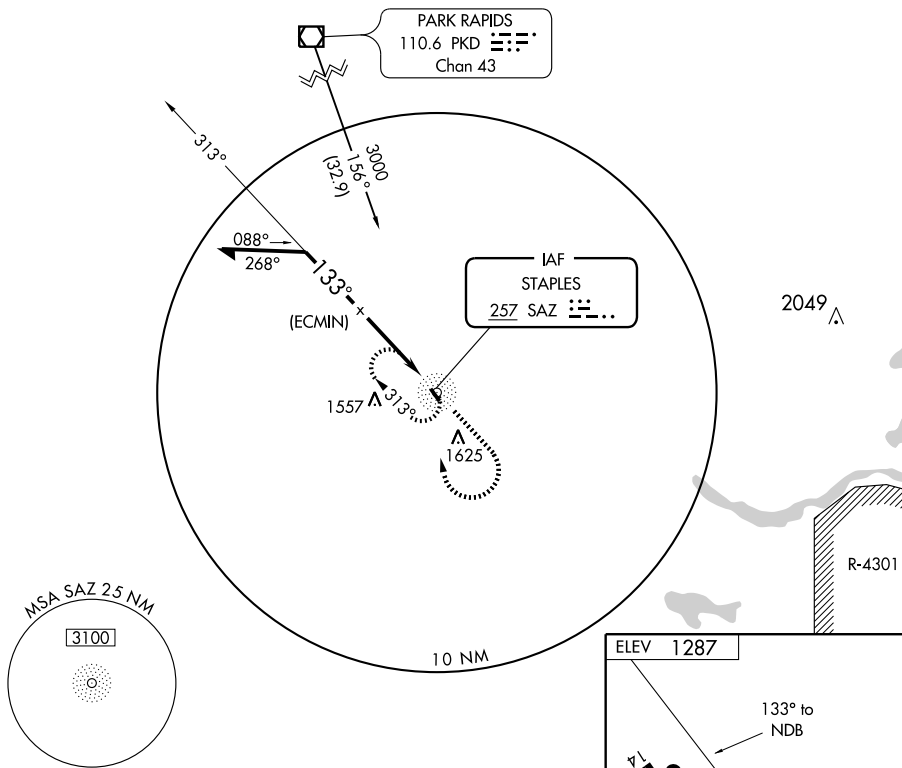
**A NA**

**MISSED APPROACH:** Climb to 3000 then right turn direct SAZ NDB and hold.

AWOS-3  
118,325

MINNEAPOLIS CENTER  
118.05 239.0

GCO  
121,725

CTAF  
122.90

CATEGORY	A	B	C	D
S-14	1820-1	533 (600-1)	1820-1½ 533 (600-½)	NA
CIRCLING	1820-1	533 (600-1)	1940-1¾ 653 (700-¼)	NA

LOC I-HYZ	APP CRS	Rwy Idg	6503
110.5	310°	TDZE	1115
		Apt Elev	1119

▼

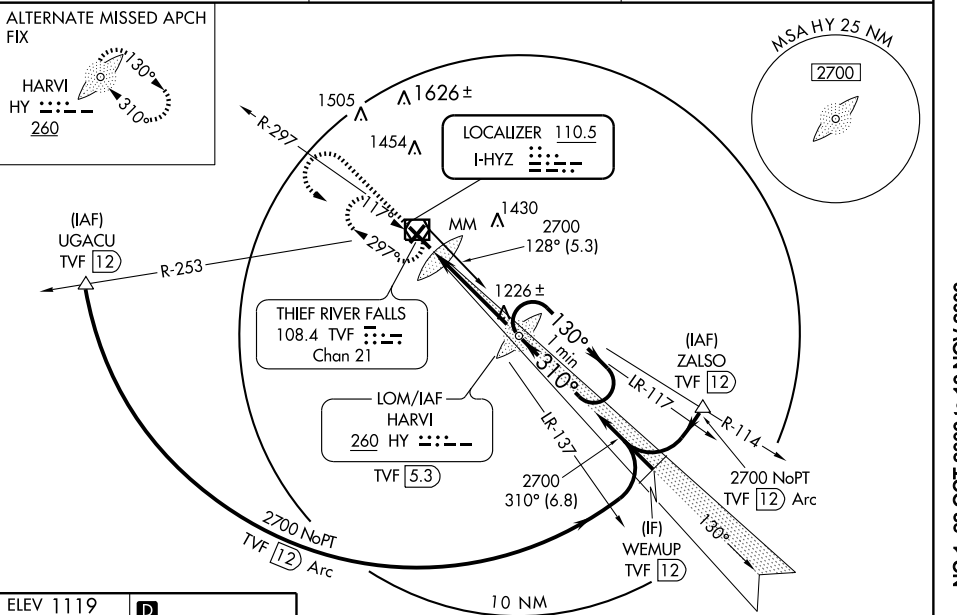
▲ NA

When local altimeter setting not received, use Crookston altimeter setting and increase all DA 82 feet, and all MDA 100 feet and increase S-LOC Cat C/D visibility ¼ mile. For inoperative MALSR when using Crookston altimeter setting, increase visibility S-ILS 31 all Cats to 1 mile. Circling to Rwy 3/21 NA.

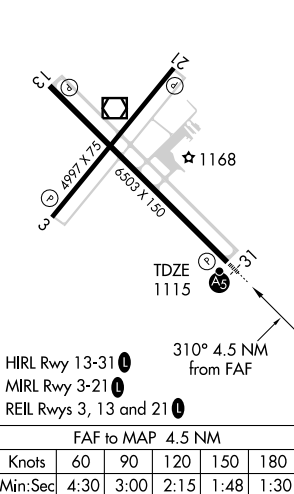
MALSR

MISSED APPROACH: Climb to 2700 then left turn direct TVF VOR/DME and hold.

AWOS-3 108.4	MINNEAPOLIS CENTER 132.15 269.6	UNICOM 122.8 (CTAF) 0
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ELEV 1119	D
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ADF or DME REQUIRED

2700

↑

TVF

108.4

LOM TVF 5.3

2605

130°

2700

310°

2700

GS 3.00°

TCH 55

One Minute Holding Pattern

CATEGORY	A	B	C	D
S-ILS 31	1315-½ 200 (200-½)			
S-LOC 31	1480-½ 365 (400-½)			1480-¾ 365 (400-¾)
CIRCLING	1540-1 421 (500-1)	1580-1 461 (500-1)	1580-1½ 461 (500-1½)	1680-2 561 (600-2)

NC-1, 22 OCT 2009 to 19 NOV 2009

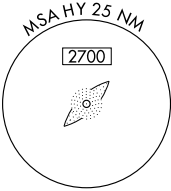
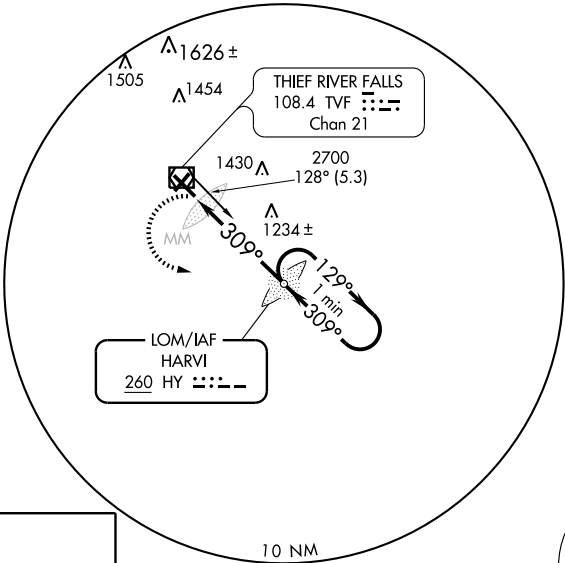
LOM HY	APP CRS	Rwy Idg	6503
260	309°	TDZE	1115
		Apt Elev	1119

**NA** Circling to Rwy 3/21 NA.  
When local altimeter setting not received, use Crookston altimeter setting and increase all MDA 100 feet and increase S-31 Cat C visibility ¼ mile and Cat D visibility ½ mile.

MALSR

MISSED APPROACH: Climbing left turn to 2700 direct HY LOM and hold.

AWOS-3 108.4	MINNEAPOLIS CENTER 132.15 269.6	UNICOM 122.8 (CTAF) <b>1</b>
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ELEV 1119 **D**

HIRL Rwy 13-31 **1**  
MRL Rwy 3-21 **1**  
REIL Rwys 3, 13 and 21 **1**

FAF to MAP 4.5 NM

Knots	60	90	120	150	180
Min:Sec	4:30	3:00	2:15	1:48	1:30

2700 HY 260

VGSI and descent angles not coincident.

LOM

One Minute Holding Pattern

129° → 2700  
← 309°

309°

≤ 3.24°  
TCH 55

4.5 NM

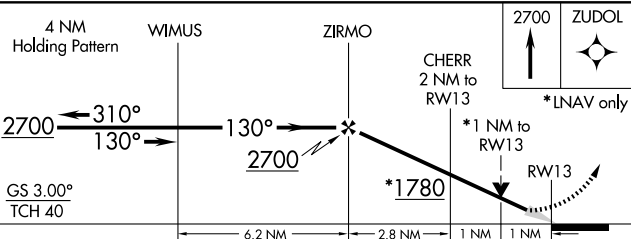
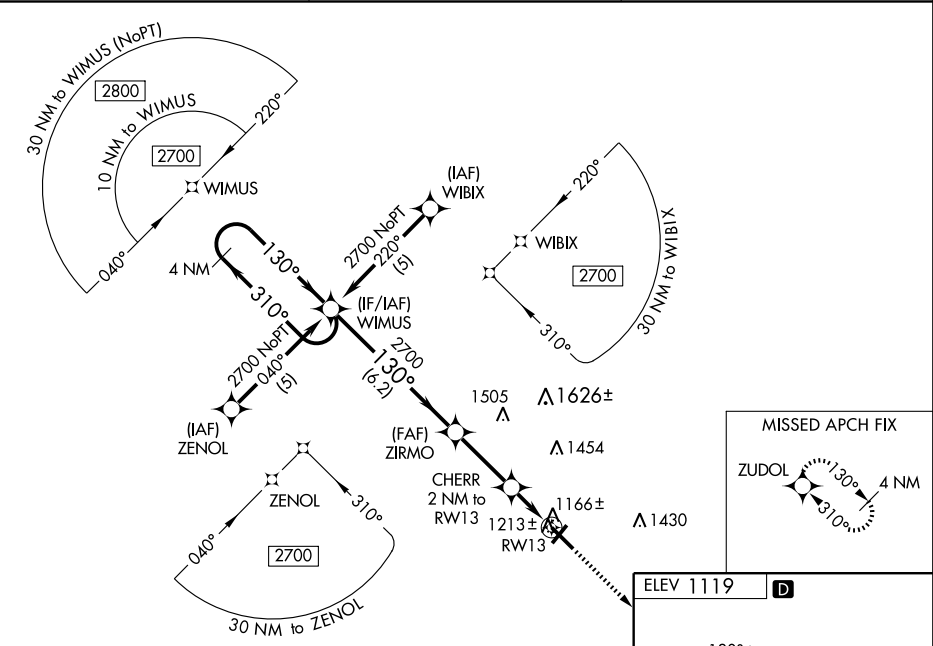
CATEGORY	A	B	C	D
S-31	1540-¾ 425 (500-¾)			1540-1 425 (500-1)
CIRCLING	1540-1 421 (500-1)	1580-1 461 (500-1)	1580-1½ 461 (500-1½)	1680-2 561 (600-2)

WAAS CH <b>72711</b> <b>W13A</b>	APP CRS <b>130°</b>	Rwy Idg TDZE Apt Elev <b>6503</b> <b>1115</b> <b>1119</b>
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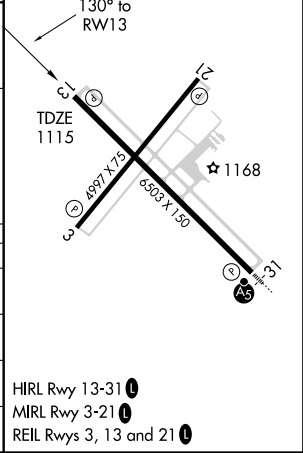
**⚠** For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (114°F). DME/DME RNP-0.3 NA.  
**⚠** When local altimeter setting not received, use Crookston altimeter setting and increase all DA 82 feet, and all MDA 100 feet and LPV and LNAV/VNAV all Cats and LNAV Cats C and D visibilities ¼ mile.  
VDP and Baro-VNAV NA when using Crookston altimeter setting.  
Circling to Rwy 3/21 NA.

MISSED APPROACH: Climb to 2700 direct ZUDOL and hold.

AWOS-3 <b>108.4</b>	MINNEAPOLIS CENTER <b>132.15 269.6</b>	UNICOM <b>122.8 (CTAF) 0</b>
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CATEGORY	A	B	C	D
LPV DA	1365-1	250 (300-1)		
LNAV/VNAV DA	1436-1¼	321 (400-1¼)		
LNAV MDA	1480-1	365 (400-1)		1480-1¼ 365 (400-1¼)
CIRCLING	1540-1 421 (500-1)	1580-1 461 (500-1)	1580-1½ 461 (500-1½)	1680-2 561 (600-2)



WAAS CH <b>69311</b> <b>W31A</b>	APP CRS <b>310°</b>	Rwy Idg TDZE <b>1115</b> Apt Elev <b>1119</b>	<b>6503</b>
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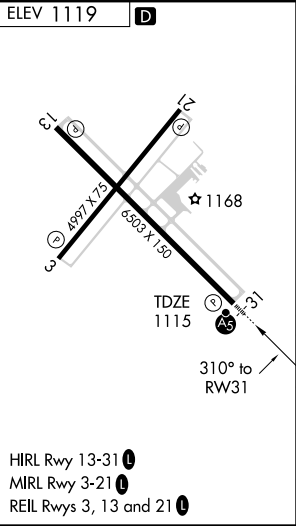
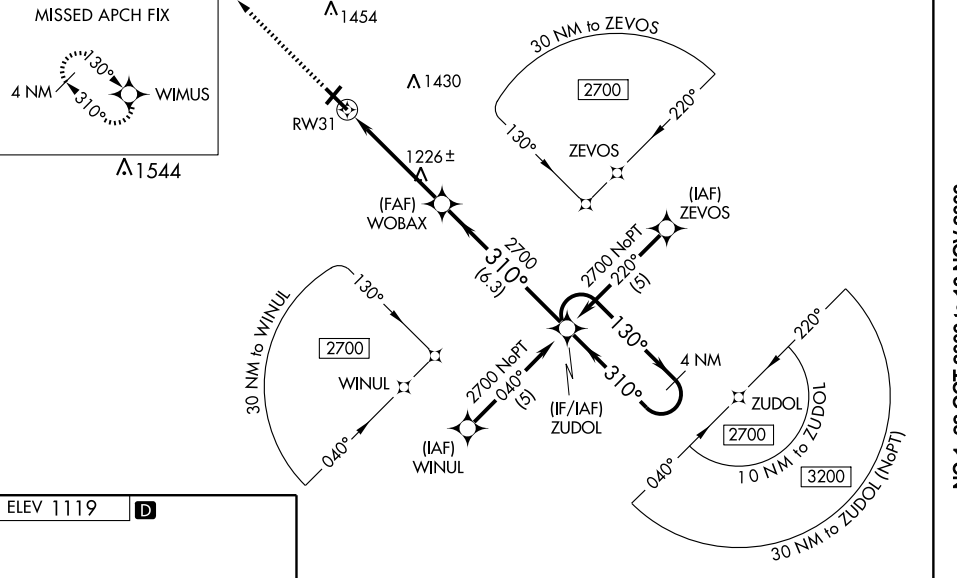
**⚠** For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (114°F). DME/DME RNP-0.3 NA.

**⚠** When local altimeter setting not received, use Crookston altimeter setting and increase all DA 82 feet, and all MDA 100 feet and LPV all Cats, LNAV/VNAV Cats A, B, and C and LNAV Cat C visibilities ¼ mile. For inoperative MALSRR when using Crookston altimeter setting, increase visibility LPV all Cats to 1 ¼ mile. For inoperative MALSRR increase visibility LNAV/VNAV Cat D to 1 mile and increase visibility LNAV Cat D to 1 ¼ mile. VDP and Baro-VNAV NA when using Crookston altimeter setting. Circling to Rwy 3/21 NA.

MALSRR

MISSED APPROACH: Climb to 2700 direct WIMUS and hold.

AWOS-3 <b>108.4</b>	MINNEAPOLIS CENTER <b>132.15 269.6</b>	UNICOM <b>122.8 (CTAF) 0</b>
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		WOBAX		ZUDOL		4 NM Holding Pattern	
* LNAV only		* 1 NM to RWY 31		310°		130°	
RWY 31		2700		2700		GS 3.00°	
1 NM		3.8 NM		6.3 NM		TCH 55	
CATEGORY		A	B	C	D		
LPV DA		1365-½ 250 (300-½)					
LNAV/VNAV DA		1427-½ 312 (400-½)				1427-¾ 312 (400-¾)	
LNAV MDA		1500-½ 385 (400-½)				1500-1 385 (400-1)	
CIRCLING		1540-1 421 (500-1)	1580-1 461 (500-1)	1580-1½ 461 (500-1½)	1680-2 561 (600-2)		

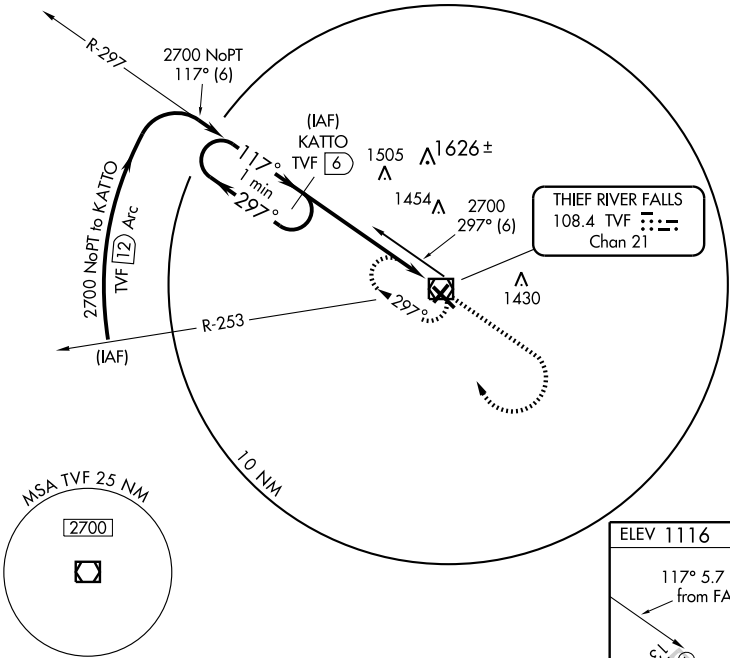
NC-1, 22 OCT 2009 to 19 NOV 2009

VOR/DME TVF <b>108.4</b> Chan <b>21</b>	APP CRS <b>117°</b>	Rwy Idg TDZE Apt Elev	<b>6503</b> <b>1114</b> <b>1116</b>
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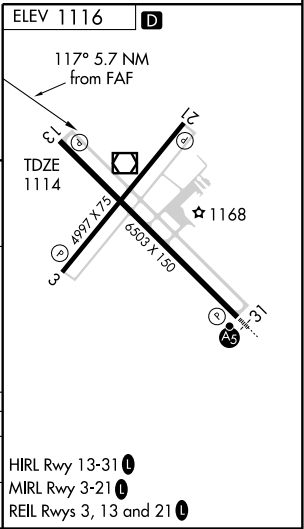
VOR/DME RWY 13  
THIEF RIVER FALLS RGNL (TVF)

<b>▼</b> Circling to Rwy 3/21 NA.	MISSED APPROACH: Climb to 2700 then right turn direct TVF VOR/DME and hold.
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AWOS-3 <b>108.4</b>	MINNEAPOLIS CENTER <b>132.15 269.6</b>	UNICOM <b>122.8 (CTAF) 0</b>
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One Minute Holding Pattern		KATTO TVF 6		2700	TVF 108.4
2700 ← 297° 117° →		TVF 1.5		VOR/DME TVF 0.3	
		4.5 NM		1.2 NM	
CATEGORY	A	B	C	D	
S-13	1520-1	406 (500-1)	1520-1¼	406 (500-1¼)	
CIRCLING	1540-1 424 (500-1)	1580-1 464 (500-1)	1580-1½ 464 (500-1½)	1680-2 564 (600-2)	



VOR/DME TVF	APP CRS	Rwy Idg	6503
108.4	312°	TDZE	1113
Chan 21		Apt Elev	1116

Increase S-31 Cat D visibility ¼ mile for inoperative MALSR.  
Circling to Rwy 3/21 NA.

MALSR

MISSED APPROACH: Climb to 2700 via TVF R-297  
then left turn direct TVF VOR/DME and hold.

AWOS-3 108.4	MINNEAPOLIS CENTER 132.15 269.6	UNICOM 122.8 (CTAF) 0
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ELEV 1116

D

HIRL Rwy 13-31

MIRL Rwy 3-21

REIL Rwys 3, 13 and 21

2700

TVF R-297

TVF

108.4

GEESSE TVF 6

One Minute Holding Pattern

VOR/DME TVF 0.8

TVF 1.8

132°

312°

2700

2.81°

TCH 39

1 NM

4.2 NM

CATEGORY	A	B	C	D
S-31	1480-½ 367 (400-½) 1480-1 367 (400-1)			
CIRCLING	1540-1 424 (500-1)	1580-1 464 (500-1)	1580-1½ 464 (500-1½)	1680-2 564 (600-2)

NC-1: 22 OCT 2009 to 19 NOV 2009



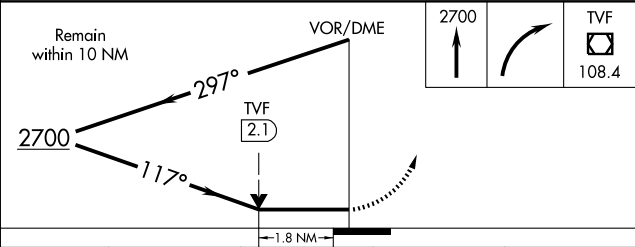
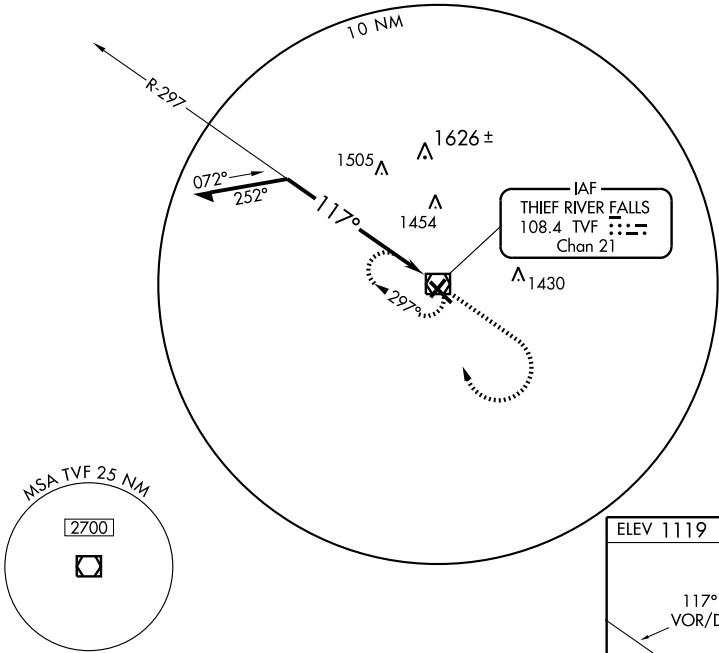
VOR/DME TVF	APP CRS	Rwy Idg	6503
108.4	117°	TDZE	1115
Chan 21		Apt Elev	1119

VOR RWY 13  
THIEF RIVER FALLS RGNL (TVF')

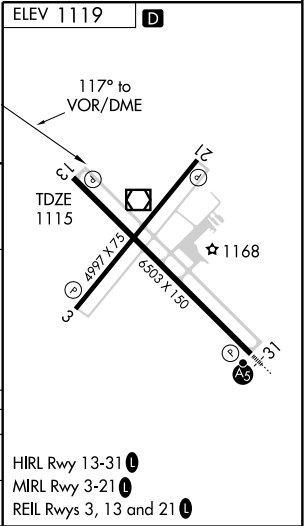
**⚠** Circling to Rwy 3/21 NA.  
VDP NA when using Crookston altimeter setting.  
**⚠** When local altimeter setting not received, use Crookston altimeter setting and increase all MDA 100 feet and increase Cat C and D visibilities ¼ mile.

MISSED APPROACH: Climb to 2700 then right turn direct TVF VOR/DME and hold.

AWOS-3 108.4	MINNEAPOLIS CENTER 132.15 269.6	UNICOM 122.8 (CTAF) <b>📻</b>
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CATEGORY	A	B	C	D
S-13	1740-1 625 (700-1)		1740-1 ¾ 625 (700-1 ¾)	1740-2 625 (700-2)
CIRCLING	1740-1 621 (700-1)		1740-1 ¾ 621 (700-1 ¾)	1740-2 621 (700-2)



HIRL Rwy 13-31 **📻**  
MIRL Rwy 3-21 **📻**  
REIL Rws 3, 13 and 21 **📻**

VOR/DME TVF <b>108.4</b> Chan <b>21</b>	APP CRS <b>312°</b>	Rwy Idg <b>6503</b> TDZE <b>1113</b> Apt Elev <b>1116</b>
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VOR RWY 31  
THIEF RIVER FALLS RGNL (TVF)

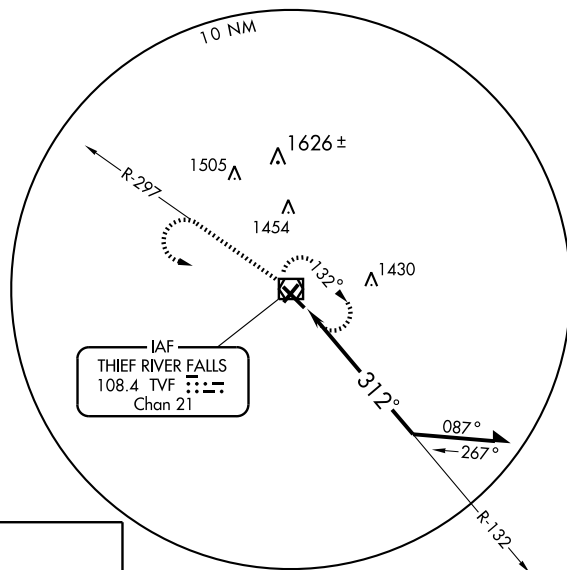
**T** Circling to Rwy 3/21 NA.

MALSR

**MISSED APPROACH:** Climb to 2700 via TVF R-297 then left turn direct TVF VOR/DME and hold.

AWOS-3  
108.4

MINNEAPOLIS CENTER  
132.15 269.6

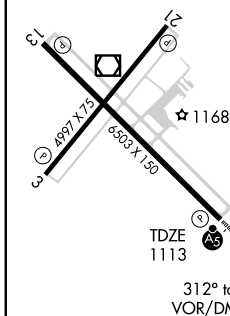
UNICOM  
122.8 (CTAF) **L**

MSA TVF 25 NM

2700

ELEV 1116

**D**

HIRL Rwy 13-31 **L**

MIRL Rwy 3-21 L

REIL Rwys 3, 13 and 21 L

2700  
↑  
TVF R-297

TVF	
	
108.4	

VOR/DME

Remain  
within 10 NM

2700

CATEGORY	A	B	C	D
S-31	1540-½ 427 (500-½)		1540-¾ 427 (500-¾)	1540-1 427 (500-1)
CIRCLING	1540-1 424 (500-1)	1580-1 464 (500-1)	1580-1½ 464 (500-1½)	1680-2 564 (600-2)



▼

▲NA

DME/DME RNP- 0.3 NA. Procedure NA at night.  
Visibility reduction by helicopters NA.  
Use Cook altimeter setting, when not received, use Ely altimeter setting and increase all MDA 20 feet and increase Cat B and C visibility ¼ mile.

MISSED APPROACH: Climbing left turn to 4000 direct KUMDE and hold.

COOK AWOS-3 118.175	MINNEAPOLIS CENTER 127.9 281.45	CTAF 122.9
------------------------	------------------------------------	---------------

ELEV 1370

MIRL Rwy 8-26

▲ 2304

HIBBING HIB

4000

KUMDE

4000

OBREW

268° to RWY 26

TDZE 1370

3400 X 75

26

FLWER

3200

3.04°

TCH 40

5.5 NM

6.1 NM

4000

UDORY

4000

304°

(34.1)

Procedure Turn NA

CATEGORY	A	B	C	D
LNNAV MDA	2100-1	730 (800-1)	2100-2 730 (800-2)	NA
CIRCLING	2120-1 750 (800-1)	2120-1¼ 750 (800-1¼)	2120-2¼ 750 (800-2¼)	NA

NC-1: 22 OCT 2009 to 19 NOV 2009

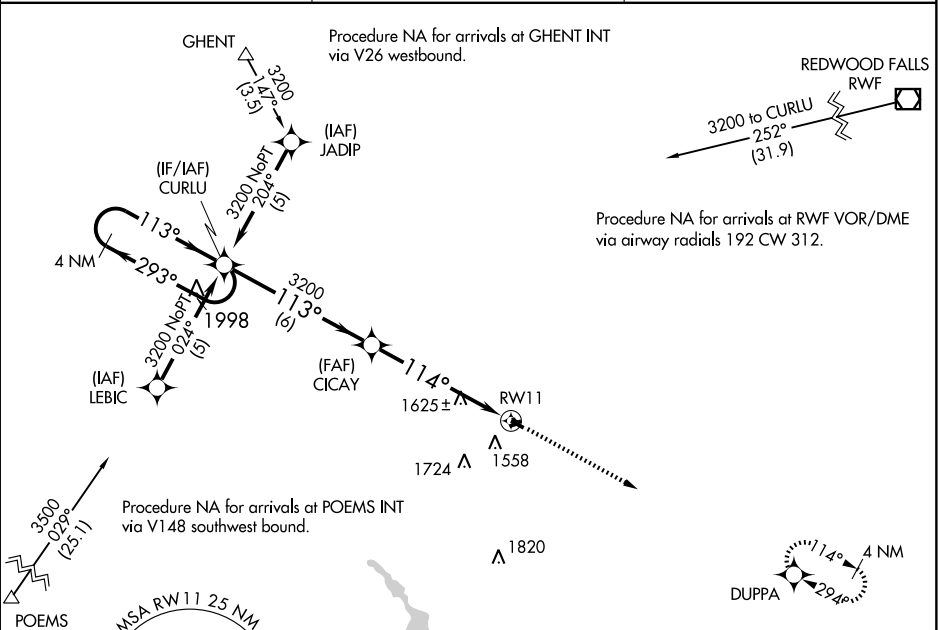
APP CRS 114°	Rwy Idg	3100
	TDZE	1336
	Apt Elev	1340

# RNAV (GPS) RWY 11

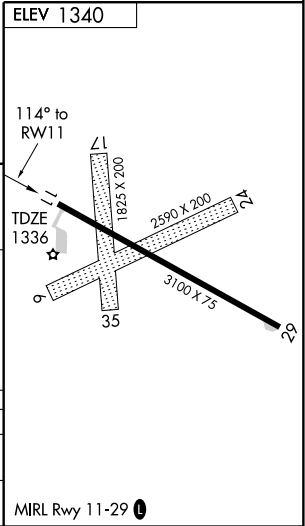
TRACY MUNI (TKC)

<p><b>NA</b></p> <p>DME/DME RNP- 0.3 NA. If local altimeter setting not received, use Marshall/Ryan altimeter setting and increase all MDAs 60 feet. Procedure NA at night.</p>	<p>MISSED APPROACH: Climb to 3000 direct DUPPA and hold.</p>
---	--

<p>AWOS-3 120.0</p>	<p>MINNEAPOLIS CENTER 127.1 290.2</p>	<p>CTAF 122.9 <b>0</b></p>
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<p>4 NM Holding Pattern</p>				
<p>CURLU                      CICAY                      RW11</p>				
<p>3200 ← 293°                      113° → 3200                      114°                      1.6 NM to RW11</p>				
<p>113°                      3200                      3.03° TCH 40                      RW11</p>				
<p>6 NM                      4.1 NM                      1.6 NM</p>				
CATEGORY	A	B	C	D
LNAV MDA	1900-1	564 (600-1)	NA	
CIRCLING	1960-1	620 (700-1)	NA	



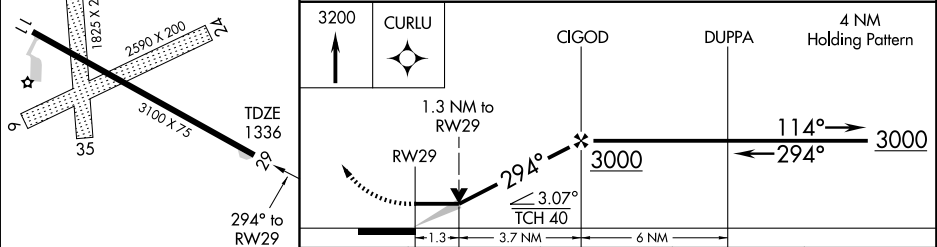
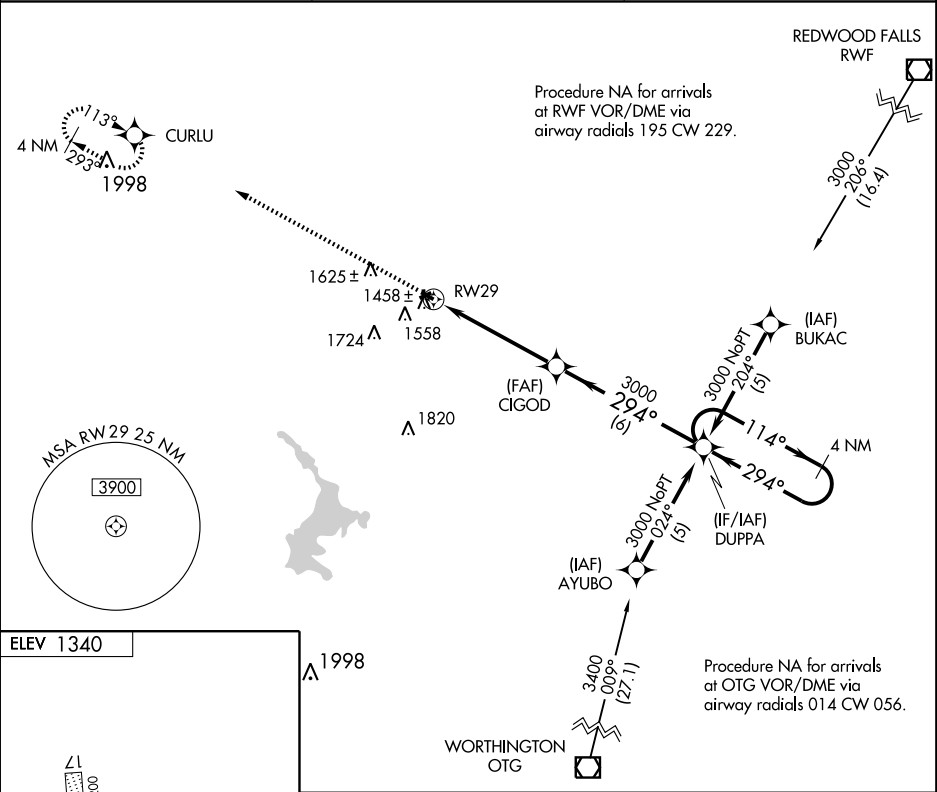
APP CRS	Rwy Idg	3100
294°	TDZE	1336
	Apt Elev	1340

# RNAV (GPS) RWY 29

TRACY MUNI (TKC)

<p><b>NA</b></p> <p>DME/DME RNP- 0.3 NA. If local altimeter setting not received, use Marshall/Ryan altimeter setting and increase all MDAs 60 feet. Procedure NA at night.</p>	<p>MISSED APPROACH: Climb to 3200 direct CURLU and hold.</p>
---	--

AWOS-3 <b>120.0</b>	MINNEAPOLIS CENTER <b>127.1 290.2</b>	CTAF <b>122.9 0</b>
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CATEGORY	A	B	C	D
LNAV MDA	1780-1	444 (500-1)	NA	
CIRCLING	1920-1	580 (600-1)	NA	

ELEV 1080

241° to RW24

☆

4400 X 75

2550 X 150

145' UP

TDZE 1073

MRL Rwy 6-24

REIL Rwy 6 and 24

NDB TWM  
243

APP CR  
257°

Rwy Idg	<b>4400</b>
TDZE	<b>1073</b>
Apt Elev	<b>1080</b>

NDB RWY 24

TWO HARBORS/ RICHARD B HELGESON (TWM)

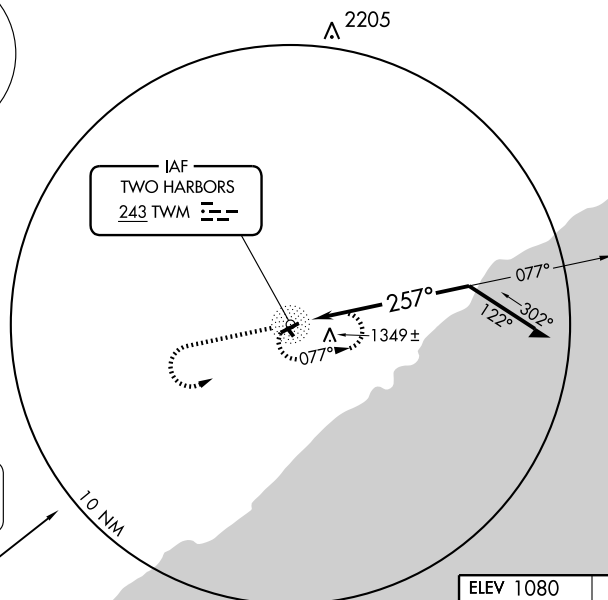
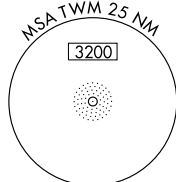
**ANA**


**MISSED APPROACH:** Climb to 3200 then left turn direct TWM NDB and hold.

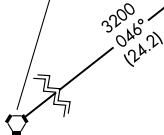
AWOS-3  
**119.325**

DULUTH APP CON ★  
125.45 255.9

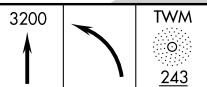
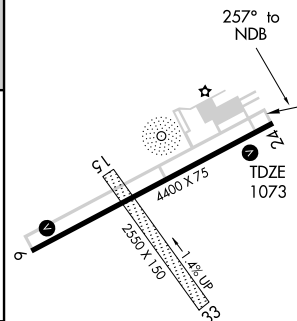
GCO  
121.725

CTAF  
122.9 **L**

DULUTH  
112.6 DLH   
Chen 73



ELEV 1080



NDB

Remain  
within 10 NM

[illegible]

3200

CATEGORY	A	B	C	D
S-24	1700-1 627 (700-1)		NA	
CIRCLING	1700-1 620 (700-1)	1740-1 660 (700-1)	NA	

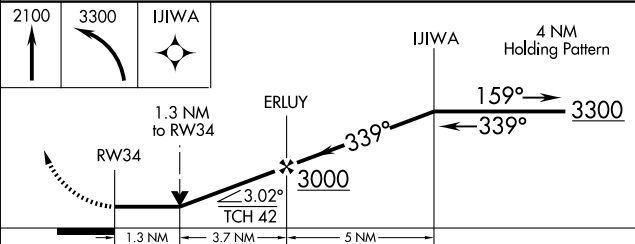
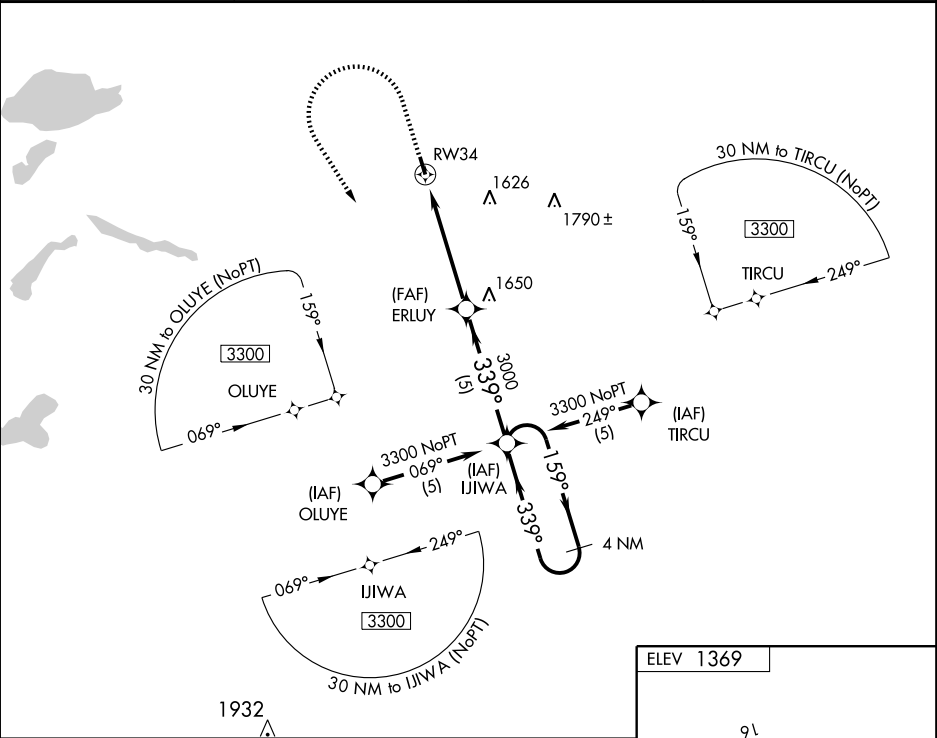
MIRL Rwy 6-24 **L**  
REIL Rwys 6 and 24 **L**



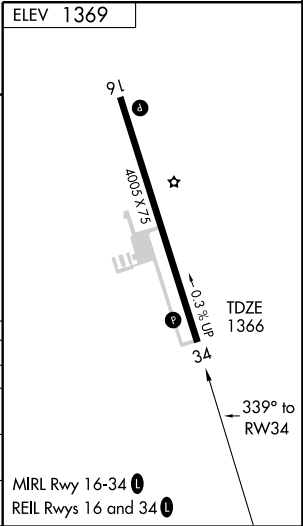
APP CRS	Rwy Idg	4005
339°	TDZE	1366
	Apt Elev	1369

RNAV (GPS) RWY 34  
WADENA MUNI (ADC)

NA GPS or RNP- 0.3 required. DME/DME RNP- 0.3 NA.		MISSED APPROACH: Climb to 2100 then climbing left turn to 3300 direct IJIWA WP and hold.	
AWOS-3 128.325	MINNEAPOLIS CENTER 126.1 269.2	GCO 121.725	UNICOM 122.8 (CTAF) 0



CATEGORY	A	B	C	D
GLS PA DA	NA			
LNAV/ VNAV DA	NA			
LNAV MDA	1820-1 454 (500-1)	1820-1½ 454 (500-1½)	1820-1½ 454 (500-1½)	
CIRCLING	1820-1 451 (500-1)	1820-1½ 451 (500-1½)	1920-2 551 (600-2)	



APP CRS  
306°

Rwy Idg	<b>3205</b>
TDZE	<b>885</b>
Apt Elev	<b>886</b>

## RNAV (GPS) RWY 30

WARREN MUNI (D37)



Use Crookston Muni-Kirkwood Field altimeter setting.

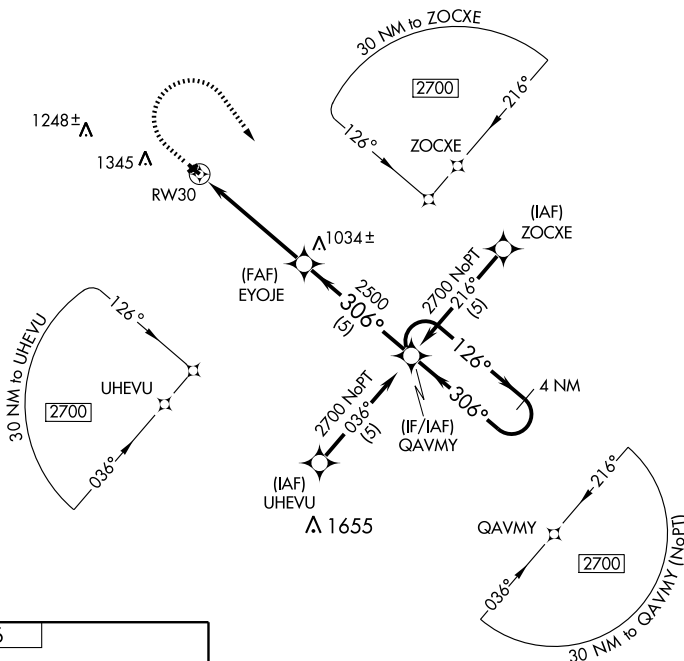


GPS or RNP -0.3 required. DME/DME RNP- 0.3 NA.

**MISSED APPROACH:** Climb to 2000, then climbing right turn to 2700 direct QAVMY WP and hold.

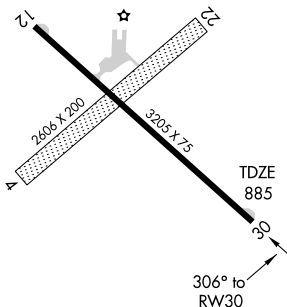
GRAND FORKS APP CON  
118.1 318.1

UNICOM  
122.8 (CTAF)

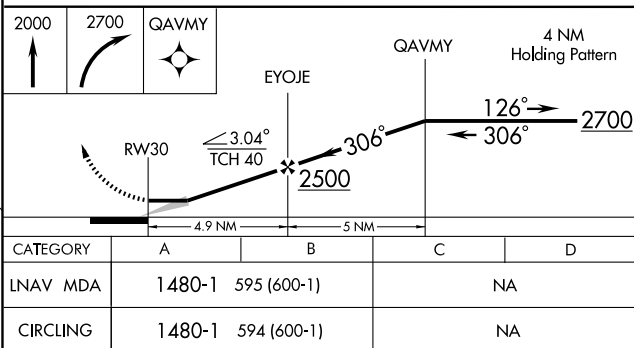


NC-1. 22 OCT 2009 to 19 NOV 2009

ELEV 886



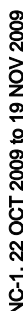
MIRL Rwy 12-30



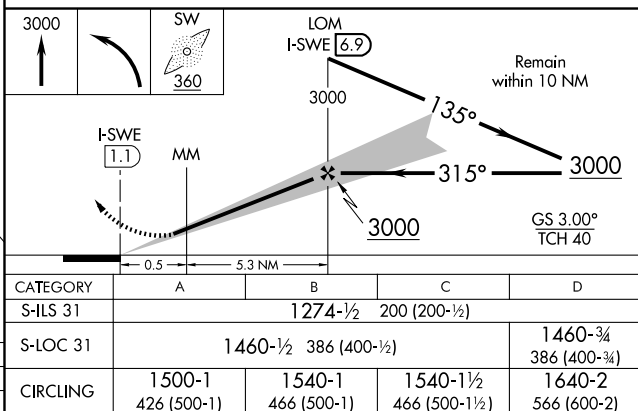
ILS or LOC RWY 31  
WARROAD INTL MEMORIAL (RRT)

MISSED APPROACH: Climb to 3000 then left turn direct  
ROADD LOM and hold.

UNICOM  
123.05 (CTAF) **L**



ADF or DME REQUIRED



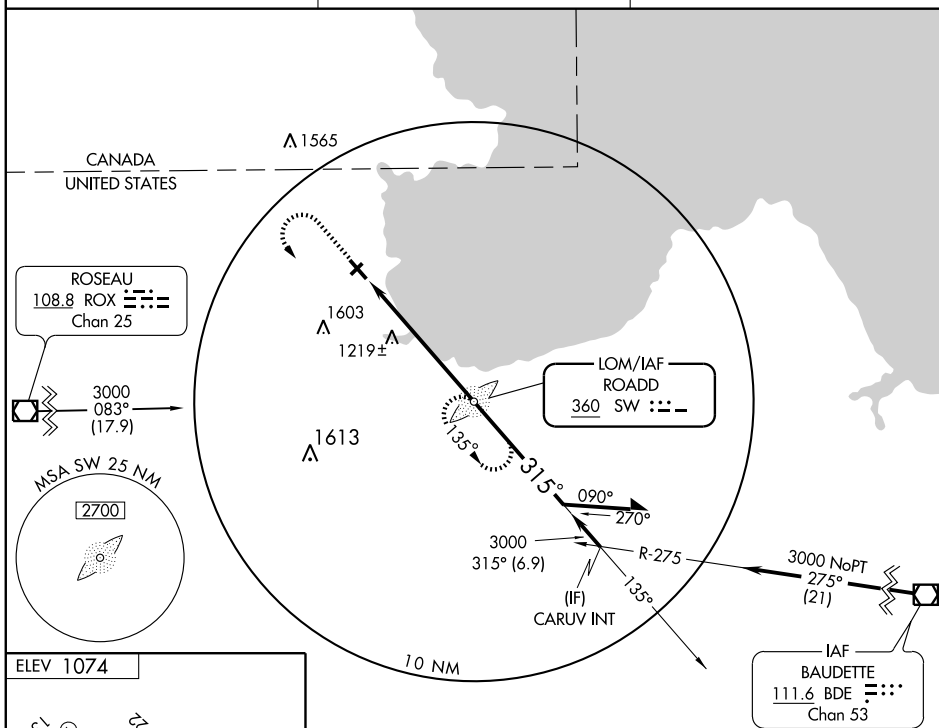
NDB RWY 31  
WARROAD INTL MEMORIAL (RRT)

MALSR  
A5

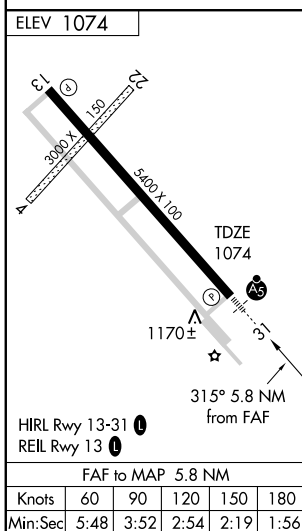
MISSED APPROACH: Climb to 3000 then left turn direct  
ROADD LOM and hold.

MINNEAPOLIS CENTER  
134.75 251.1

UNICOM  
123.05 (CTAF) **L**



NC-1. 22 OCT 2009 to 19 NOV 2009



APP CRS	Rwy Idg	<b>5400</b>
<b>135°</b>	TDZE	<b>1073</b>
	Apt Elev	<b>1074</b>

# RNAV (GPS) RWY 13

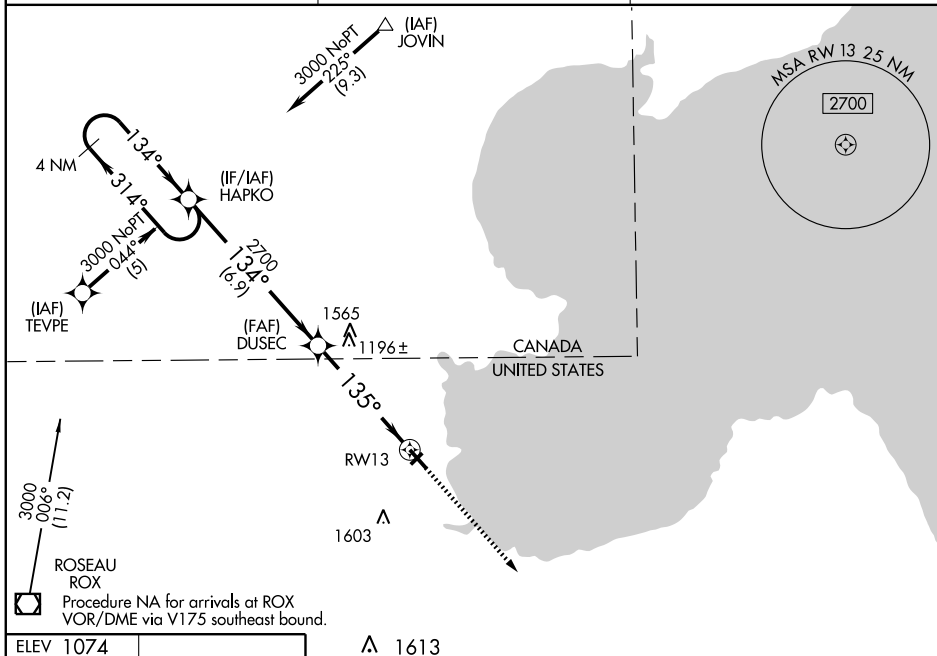
## WARROAD INTL MEMORIAL (RRT)

- T** DME/DME RNP-0.3 NA.
- A** When local altimeter setting not received, use Roseau altimeter setting and increase all MDAs 40 feet, and LNAV Cat C visibilities ¼ mile. VDP NA when using Roseau altimeter setting.

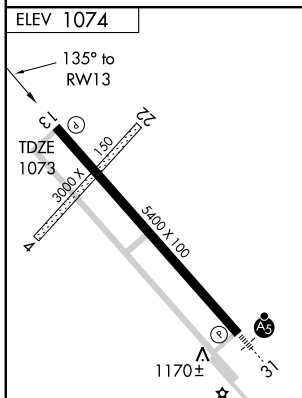
**MISSED APPROACH:** Climb to 3000 direct EPAME and hold.

AWOS-3  
119.925

MINNEAPOLIS CENTER  
134.75 251.1

UNICOM  
123.05 (CTAF) **L**

NC-1. 22 OCT 2009 to 19 NOV 2009



4 NM Holding Pattern

VGSI and descent angles not coincident.

3000

314°

134°

HAPKO

DUSEC

2700

135°

1.4 NM to RW13

3.04°

TCH 45

6.9 NM

3.5 NM

1.4

RW13

CATEGORY	A	B	C	D
LNAV MDA	1560-1	487 (500-1)	1560-1 $\frac{1}{4}$ 487 (500-1 $\frac{1}{4}$ )	1560-1 $\frac{1}{2}$ 487 (500-1 $\frac{1}{2}$ )
CIRCLING	1560-1	486 (500-1)	1560-1 $\frac{1}{2}$ 486 (500-1 $\frac{1}{2}$ )	1640-2 566 (600-2)

Baro-VNAV NA when using Roseau altimeter setting. DME/DME RNP-0.3 NA. When local altimeter setting not received, use Roseau altimeter setting and increase all DAs 36 feet and all MDAs 40 feet and increase, LNAV/VNAV all Cats and LNAV Cat D visibilities ¼ mile. VDP NA when using Roseau altimeter setting. For inoperative MALSR when using Roseau altimeter setting increase LPV all Cats visibility to 1 mile. For uncompensated Baro-VNAV systems, LNAV-VNAV NA below -17°C (2°F) or above 47°C (116°F).

MALSR

MISSED APPROACH: Climb to 3000 direct HAPKO and hold.

AWOS-3 119.925	MINNEAPOLIS CENTER 134.75 251.1	UNICOM 123.05 (CTAF)
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MISSED APCH FIX

HAPKO

CANADA

UNITED STATES

ROSEAU ROX

3000 108° (19.6)

BAUDETTE BDE

3000 288° (18.9)

ELEV 1074

Procedure NA for arrivals at ROX VOR/DME via V175 northbound and arrivals at BDE VOR/DME via V217 southeast bound.

3000	HAPKO	VGSI and RNAV glidepath not coincident. * LNAV only				4 NM Holding Pattern
		DULPE	EPAME	135° 3000		GS 3.00° TCH 45°
RW31		1.2 NM	4.6 NM	6 NM		
CATEGORY	A	B	C	D		
LPV DA	1324-1/2		250 (300-1/2)			
LNAV/VNAV DA	1449-3/4		375 (400-3/4)			
LNAV MDA	1480-1/2 406 (500-1/2)		1480-3/4 406 (500-3/4)		1480-1 406 (500-1)	
CIRCLING	1500-1 426 (500-1)		1540-1 466 (500-1)		1540-1 1/2 466 (500-1 1/2)	
					1640-2 566 (600-2)	

TDZE 1074

1170±

315° to RW31

HIRL Rwy 13-31

REIL Rwy 13

NC-1: 22 OCT 2009 to 19 NOV 2009

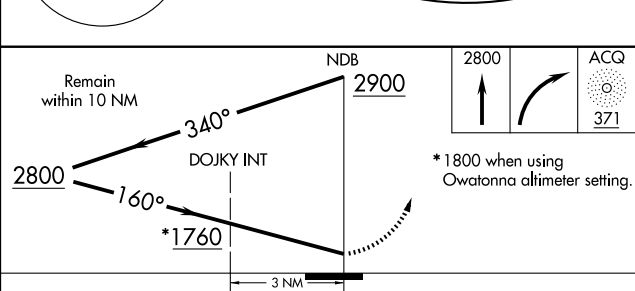
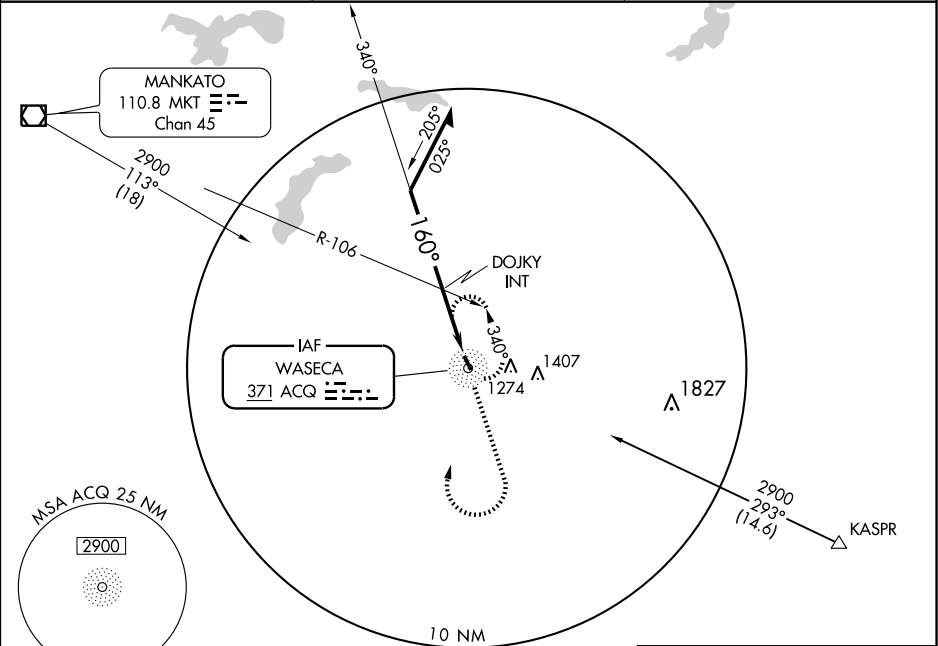
NDB RWY 15  
WASECA MUNI (ACQ)

NDB ACQ	APP CRS	Rwy Idg	3398
371	160°	TDZE	1126
		Apt Elev	1126

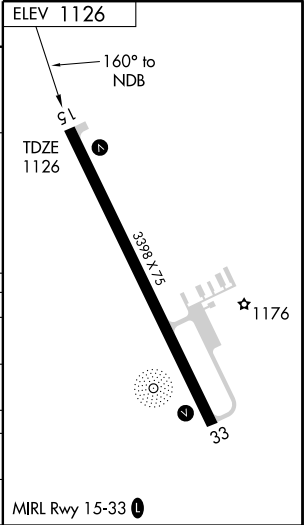
When local altimeter setting not received, use Owatonna altimeter setting and increase all MDA 40 feet and increase all Cat C visibilities ¼ mile.

MISSED APPROACH: Climb to 2800 then right turn direct ACQ NDB and hold.

AWOS-3 371	MINNEAPOLIS CENTER 132.35 307.3	UNICOM 122.8 (CTAF)
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CATEGORY	A	B	C	D
S-15	1760-1	634 (700-1)	1760-1¾ 634 (700-1¾)	NA
CIRCLING	1760-1	634 (700-1)	1760-1¾ 634 (700-1¾)	NA
DOJKY FIX MINIMUMS				
S-15	1720-1	594 (600-1)	1720-1½ 594 (600-1½)	NA
CIRCLING	1720-1	594 (600-1)	1720-1½ 594 (600-1½)	NA



▼

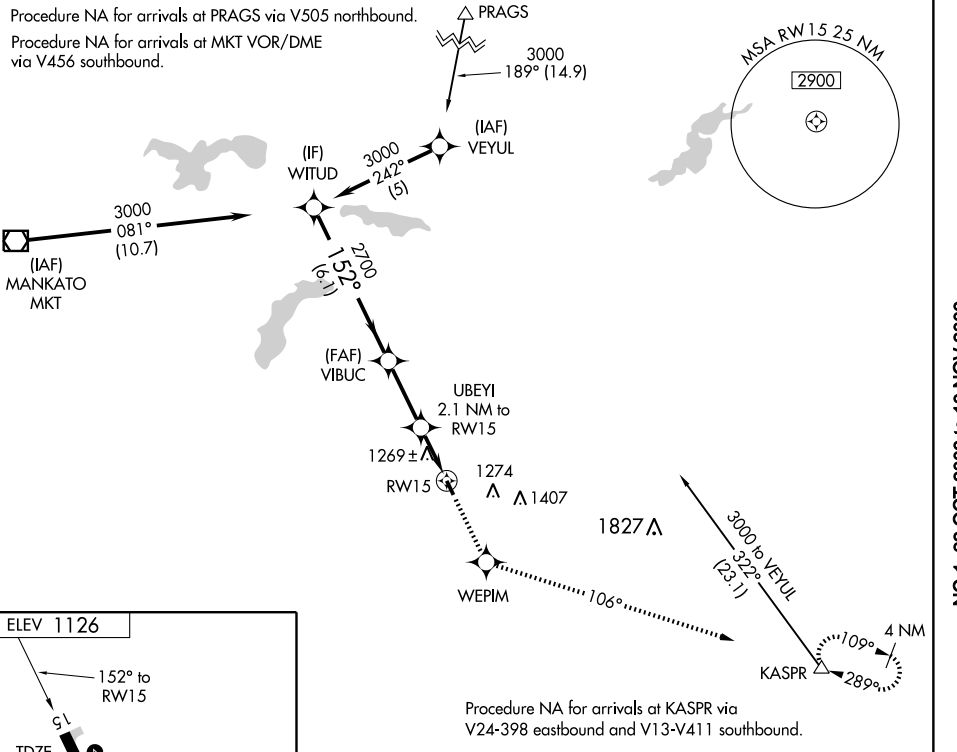
DME/DME RNP-0.3 NA.

▲

VDP NA when using Owatonna altimeter setting.  
When local altimeter setting not received, use Owatonna altimeter setting and increase all MDA 40 feet and LNAV Cat. C visibility ¼ mile.

MISSED APPROACH: Climb to 3000 direct WEPM and via 106° track to KASPR and hold.

AWOS-3 371	MINNEAPOLIS CENTER 132.35 307.3	UNICOM 122.8 (CTAF) 0
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VGSI and descent angles not coincident.				
WITUD				
<div>3000</div> <div>152°</div> <div>2700</div> <div>1840</div> <div>3.04° TCH 40</div> <div>1.4 NM to RW15</div> <div>0.7</div> <div>1.4 NM</div>				
CATEGORY	A	B	C	D
LNAV MDA	1520-1 394 (400-1)			NA
CIRCLING	1580-1 454 (500-1)	1640-1 514 (600-1)	1660-1½ 534 (600-1½)	NA

NC-1: 22 OCT 2009 to 19 NOV 2009



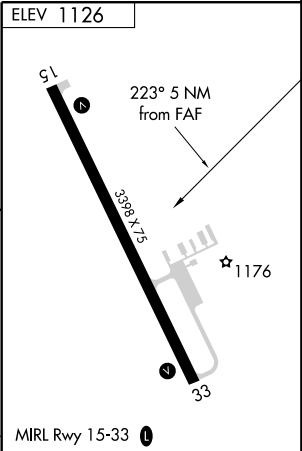
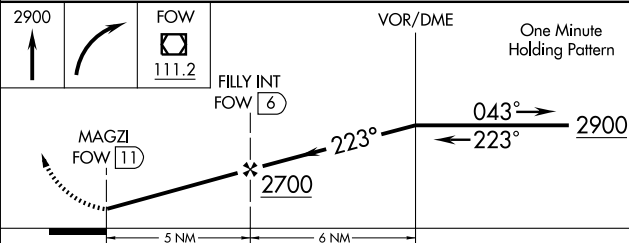
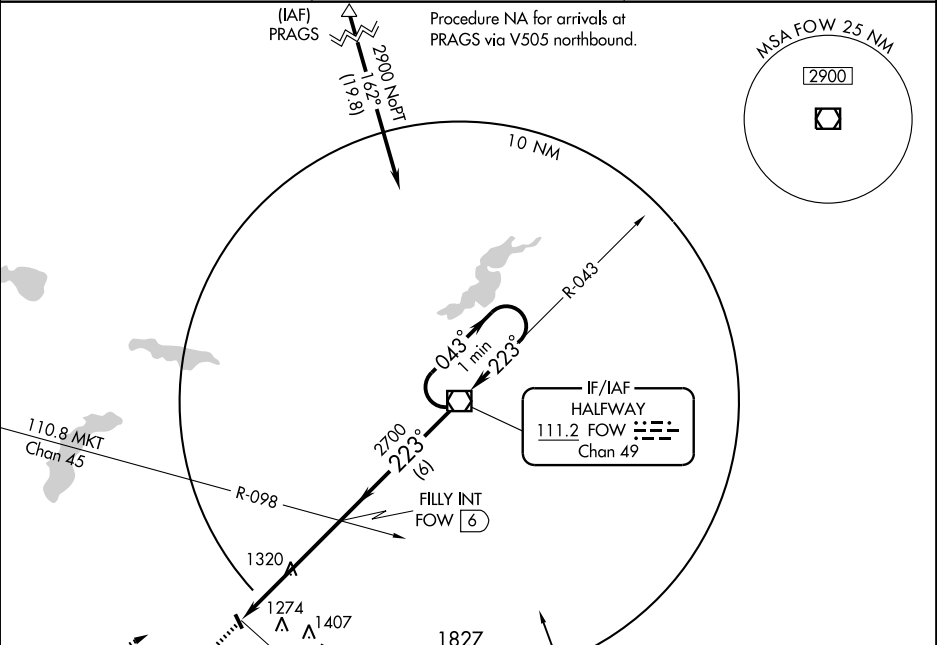
VOR/DME FOW	APP CRS	Rwy Idg	N/A
111.2	223°	TDZE	N/A
Chan 49		Apt Elev	1126

VOR-A  
WASECA MUNI (ACQ)

When local altimeter setting not received, use Owatonna altimeter setting and increase all MDA 40 feet.

MISSED APPROACH: Climb to 2900 then right turn direct FOW VOR/DME and hold.

AWOS-3 371	MINNEAPOLIS CENTER 132.35 307.3	UNICOM 122.8 (CTAF)
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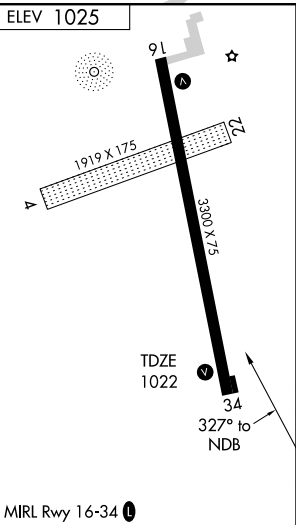
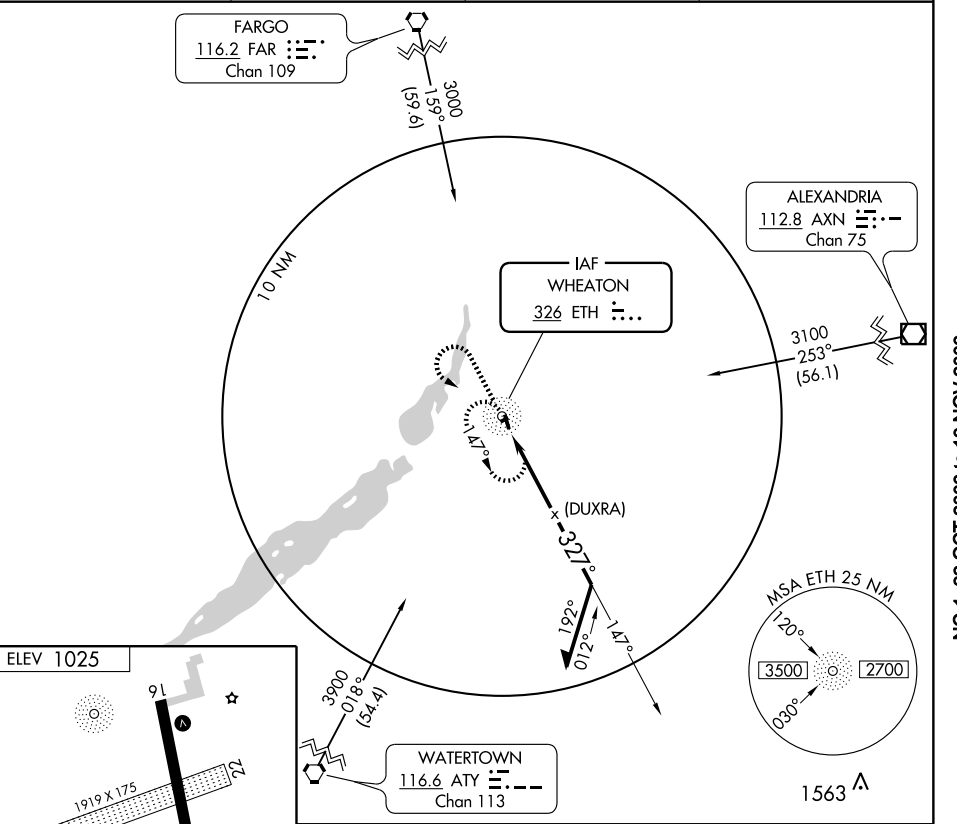
CATEGORY	A	B	C	D	FAF to MAP 5 NM					
CIRCLING	1620-1 494 (500-1)	1640-1 514 (600-1)	1660-1½ 534 (600-1½)	NA	Knots	60	90	120	150	180
					Min:Sec	5:00	3:20	2:30	2:00	1:40

▼

▲ NA

MISSED APPROACH: Climb to 3000 then left turn direct ETH NDB and hold.

AWOS-3 326	MINNEAPOLIS CENTER 126.1 269.2	PRINCETON RADIO 122.25	UNICOM 122.8 (CTAF) 1
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3000	ETH 326	NDB	147°	2700	327°	4 NM	Remain within 10 NM
CATEGORY	A	B	C	D			
S-34	1540-1	518 (600-1)	1540-1½ 518 (600-1½)	NA			
CIRCLING	1540-1	515 (600-1)	1540-1½ 515 (600-1½)	NA			

NC-1: 22 OCT 2009 to 19 NOV 2009

LOC I-BDH <b>109.5</b>	APP CRS <b>126°</b>	Rwy Idg TDZE Apt Elev	<b>5500</b> <b>1124</b> <b>1126</b>
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# ILS or LOC RWY 13

## WILLMAR MUNI-JOHN L RICE FIELD (BDH)



NA

If local altimeter setting not received, use Olivia Rgnl altimeter setting and increase all DAs 55 feet and all MDAs 60 feet.

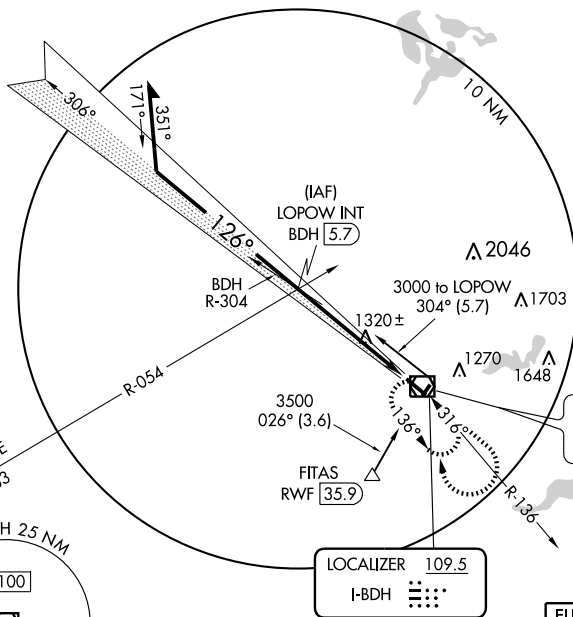
MISSED APPROACH: Climb to 2500 then climbing right turn to 3000 direct BDH VOR/DME and hold.

AWOS-3  
**113.7**

MINNEAPOLIS CENTER  
**125.5 323.1**

UNICOM  
**122.8 (CTAF)**

Maximum entry altitude 6000.



MISSED APCH FIX

DARWIN  
109.0 DWN Chan 27

DARWIN  
109.0 DWN Chan 27

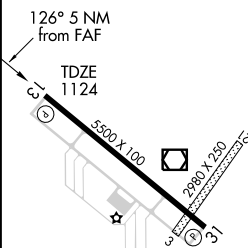
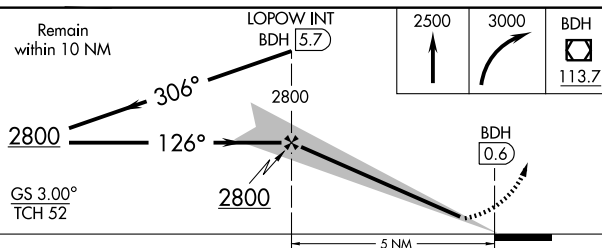
3000 to LOPOW  
272° (33.5)

WILLMAR  
113.7 BDH Chan 84

LOCALIZER 109.5  
I-BDH

ELEV 1126

Remain  
within 10 NM



CATEGORY	A	B	C	D
S-ILS 13	1324- <sup>3</sup> / <sub>4</sub> 200 (200- <sup>3</sup> / <sub>4</sub> )			
S-LOC 13	1620-1 496 (500-1)	1620-1 <sup>1</sup> / <sub>4</sub> 496 (500-1 <sup>1</sup> / <sub>4</sub> )	1620-1 <sup>1</sup> / <sub>2</sub> 496 (500-1 <sup>1</sup> / <sub>2</sub> )	
CIRCLING	1620-1 494 (500-1)	1620-1 <sup>1</sup> / <sub>2</sub> 494 (500-1 <sup>1</sup> / <sub>2</sub> )	1680-2 554 (600-2)	

HIRL Rwy 13-31  
REIL Rwy 31

FAF to MAP 5 NM

Knots	60	90	120	150	180
Min:Sec	5:00	3:20	2:30	2:00	1:40

**T**

If local altimeter setting not received, use Olivia Rgnl altimeter setting and increase all DAs/MDAs 60 feet. DME/DME RNP -0.3 NA.

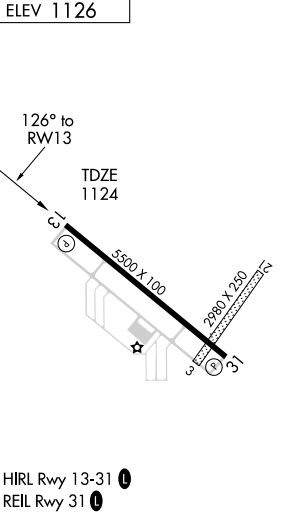
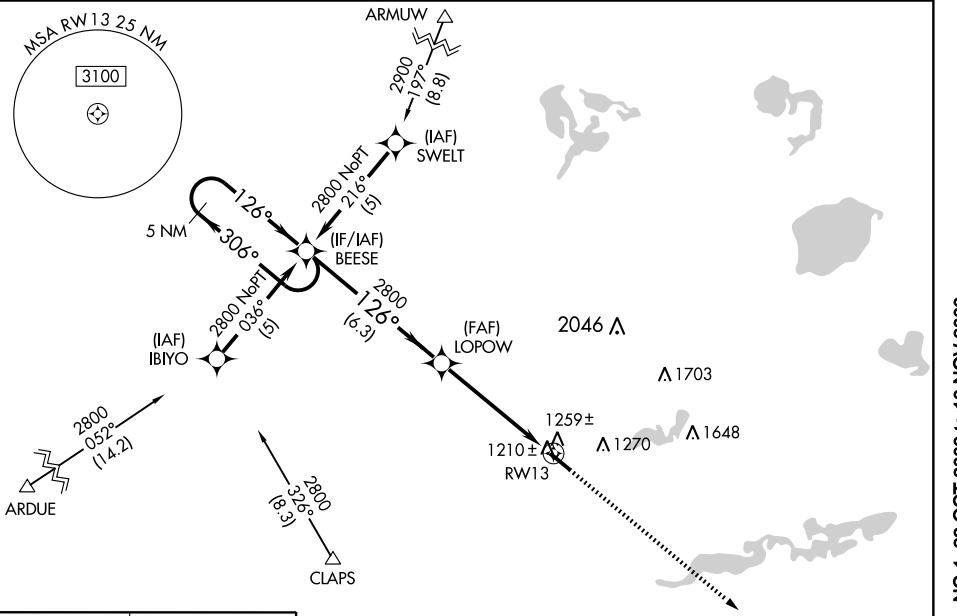
**A**

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (116°F).

Baro-VNAV and VDP NA when using Olivia Rgnl altimeter setting.

MISSED APPROACH: Climb to 2800 direct HEPIV and hold.

AWOS-3 <b>113.7</b>	MINNEAPOLIS CENTER <b>125.5 323.1</b>	UNICOM <b>122.8 (CTAF) 0</b>
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5 NM Holding Pattern		BEESE	LOPOW	HEPIV
2800		306° 126°	126° 2800	*1.4 NM to RW13 *LNAV only
GS 3.00° TCH 52		6.3 NM	3.6 NM	1.4 NM
CATEGORY	A	B	C	D
LPV DA	1387-1 263 (300-1)			
LNAV/VNAV DA	1480-1¼ 356 (400-1¼)			
LNAV MDA	1620-1 496 (500-1)	1620-1¼ 496 (500-1¼)	1620-1½ 496 (500-1½)	1680-2 554 (600-2)
CIRCLING	1620-1 494 (500-1)	1620-1½ 494 (500-1½)	1680-2 554 (600-2)	

NC-1: 22 OCT 2009 to 19 NOV 2009

APP CRS	Rwy Idg	5500
306°	TDZE	1126
	Apt Elev	1126

RNAV (GPS) RWY 31

WILLMAR MUNI-JOHN L RICE FIELD (BDH)

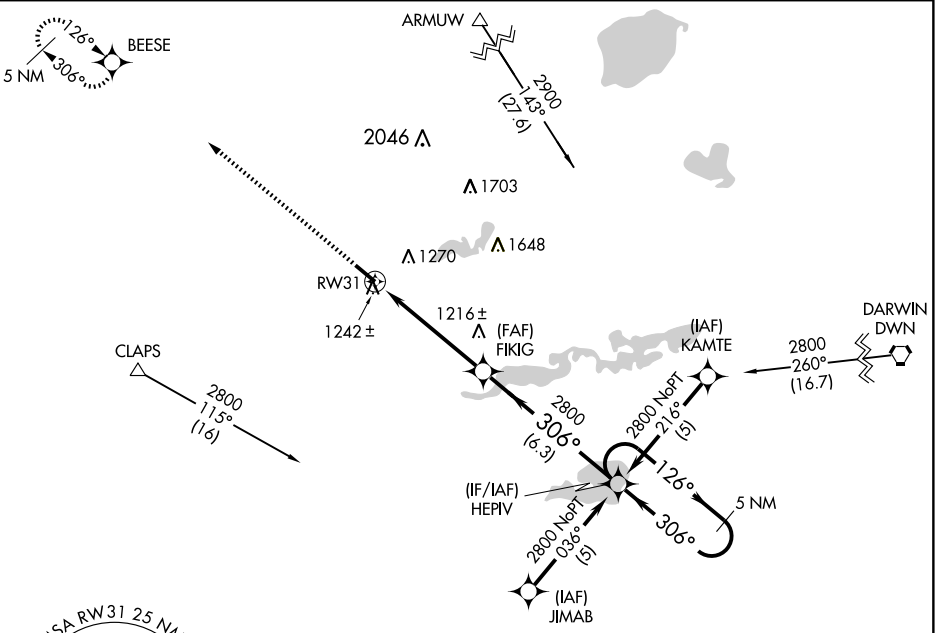
⚠

⚠

If local altimeter setting not received, use Olivia Rgnl altimeter setting and increase all MDAs 60 feet.  
VDP NA with Olivia Rgnl altimeter setting.  
DME/DME RNP -0.3 NA.

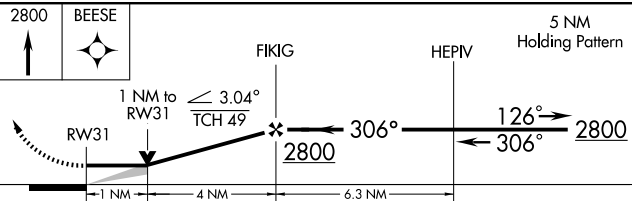
MISSED APPROACH: Climb to 2800 direct BEESE and hold.

AWOS-3 113.7	MINNEAPOLIS CENTER 125.5 323.1	UNICOM 122.8 (CTAF) 1
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Procedure NA for arrival at RWF VOR/DME on airway radials 054 CW 060.

ELEV 1126



CATEGORY	A	B	C	D
LNAV MDA	1500-1	374 (400-1)		1500-1¼ 374 (400-1¼)
CIRCLING	1520-1 394 (400-1)	1580-1 454 (500-1)	1580-1½ 454 (500-1½)	1680-2 554 (600-2)

HIRL Rwy 13-31 1

REIL Rwy 31 1

NC-1: 22 OCT 2009 to 19 NOV 2009

VOR/DME BDH <b><u>113.7</u></b> Chan <b>84</b>	APP CRS <b>119°</b>	Rwy Idg <b>5500</b> TDZE <b>1124</b> Apt Elev <b>1126</b>
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VOR RWY 13

WILLMAR MUNI-JOHN L RICE FIELD (BDH)

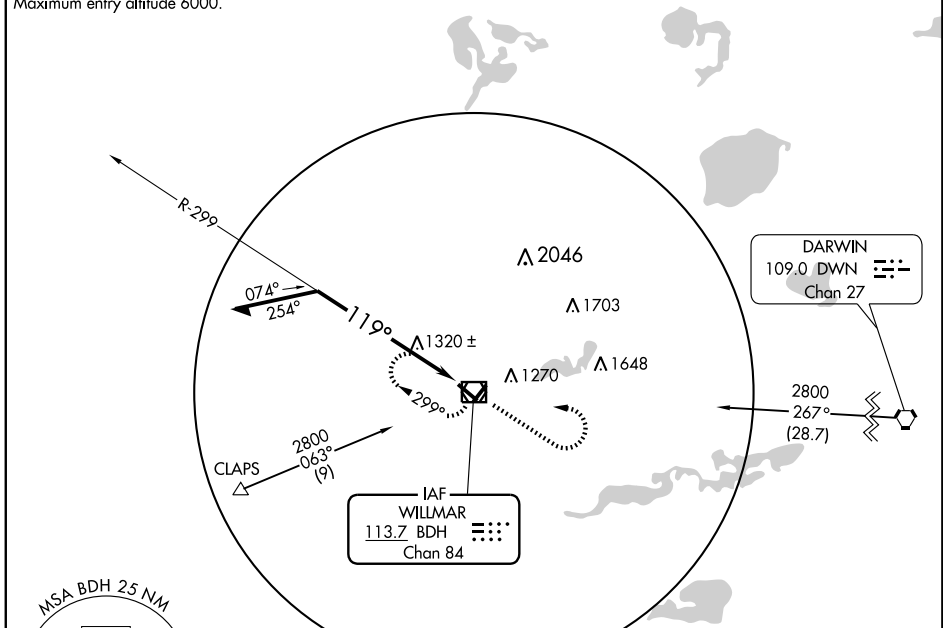
**T** If local altimeter setting not received, use Olivia Rgnl altimeter setting and increase all MDAs 60 feet.

**A** VDP NA with Olivia Rgnl altimeter setting.

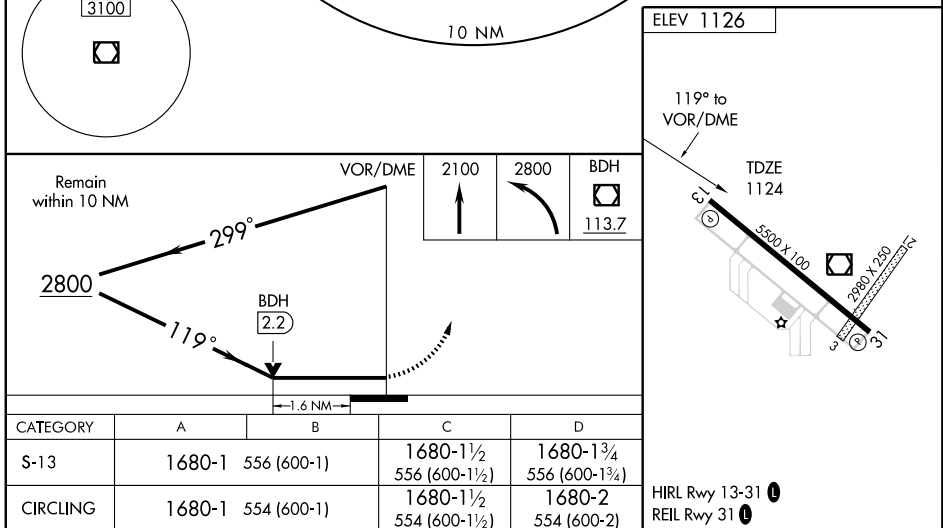
**MISSED APPROACH:** Climb to 2100, then climbing left turn to 2800 direct BDH VOR/DME and hold.

AWOS-3 <b>113.7</b>	MINNEAPOLIS CENTER <b>125.5 323.1</b>	UNICOM <b>122.8</b> (CTAF) <b>0</b>
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Maximum entry altitude 6000.



NC-1. 22 OCT 2009 to 19 NOV 2009



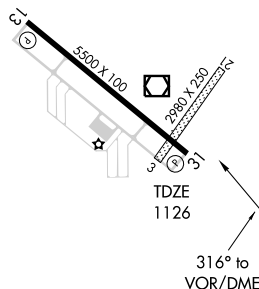
**MISSED APPROACH:** Climb to 2000, then climbing left turn to 2800 direct BDH VOR/DME and hold.

UNICOM  
122.8 (CTAF) **L**

MSA BDH 25 NM

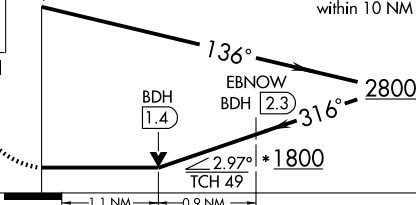
3100

ELEV 1126



Remain  
within 10 NM

\*1860 when using Olivia Rgnl altimeter setting.



CATEGORY	A	B	C	D
S-31	1800-1	674 (700-1)	1800-2 674 (700-2)	1800-2¼ 674 (700-2¼)
CIRCLING	1800-1	674 (700-1)	1800-2 674 (700-2)	1800-2¼ 674 (700-2¼)

## EBNOW FIX MINIMUMS

S-31	1520-1 394 (400-1)			1520-1¼ 394 (400-1¼)
CIRCLING	1520-1 394 (400-1)	1580-1 454 (500-1)	1580-1½ 454 (500-1½)	1680-2 554 (600-2)

HIRL Rwy 13-31 **L**

REIL Rwy 31 L

NDB	MWM	APP CRS	Rwy Idg	3599
203		177°	TDZE	1410
			Apt Elev	1410

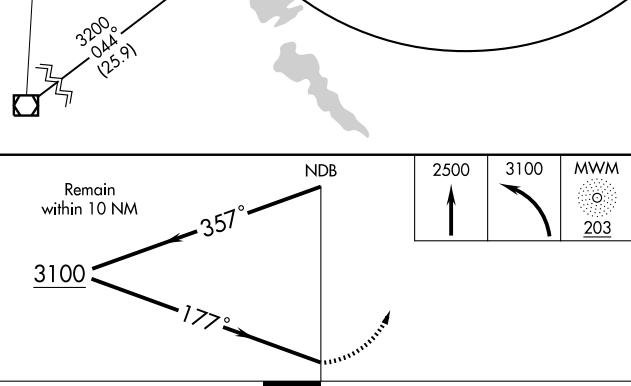
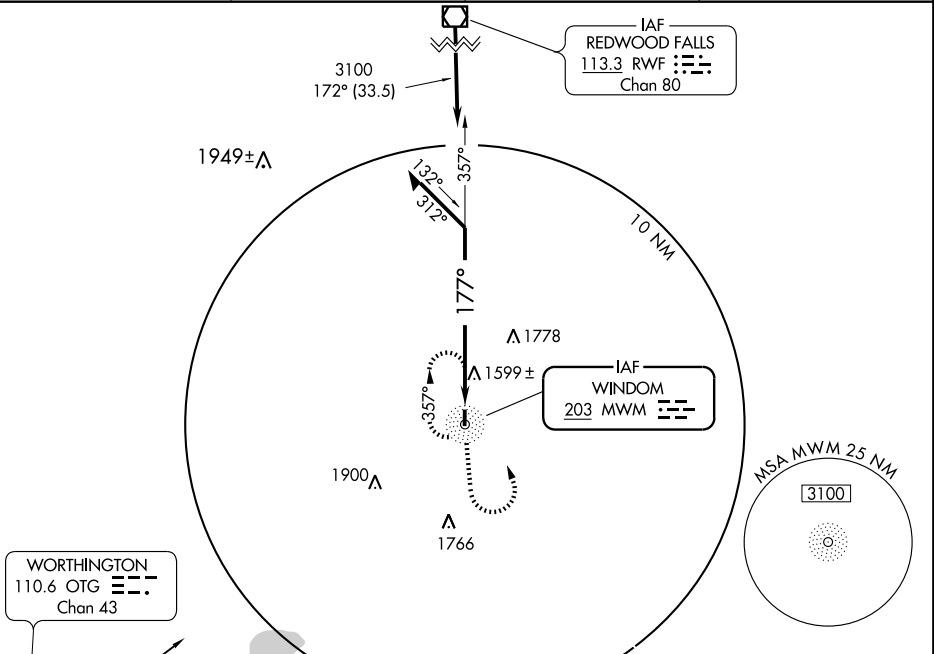
NDB RWY 17

WINDOM MUNI (MWM)

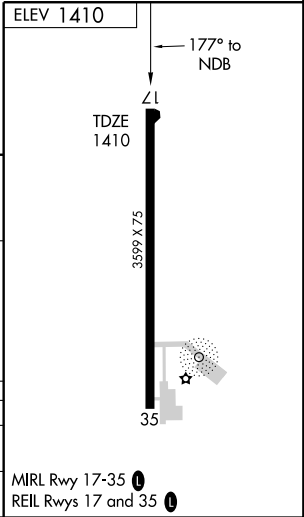
Circling not authorized at night to Rwy 35.

MISSED APPROACH: Climb to 2500 then climbing left turn to 3100 direct MWM NDB and hold.

AWOS-3 118.525	MINNEAPOLIS CENTER 127.1 290.2	CTAF 122.9	UNICOM 122.8
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CATEGORY	A	B	C	D
S-17	1960-1	550 (600-1)	1960-1½ 550 (600-1½)	NA
CIRCLING	1960-1	550 (600-1)	1960-1½ 550 (600-1½)	NA





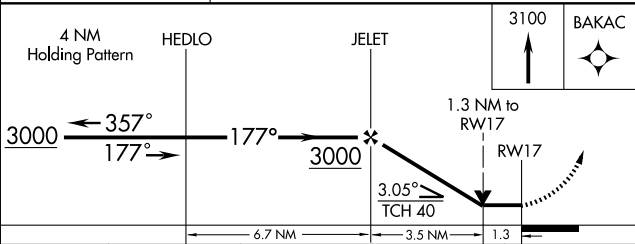
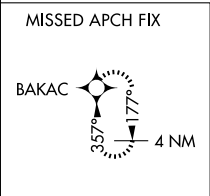
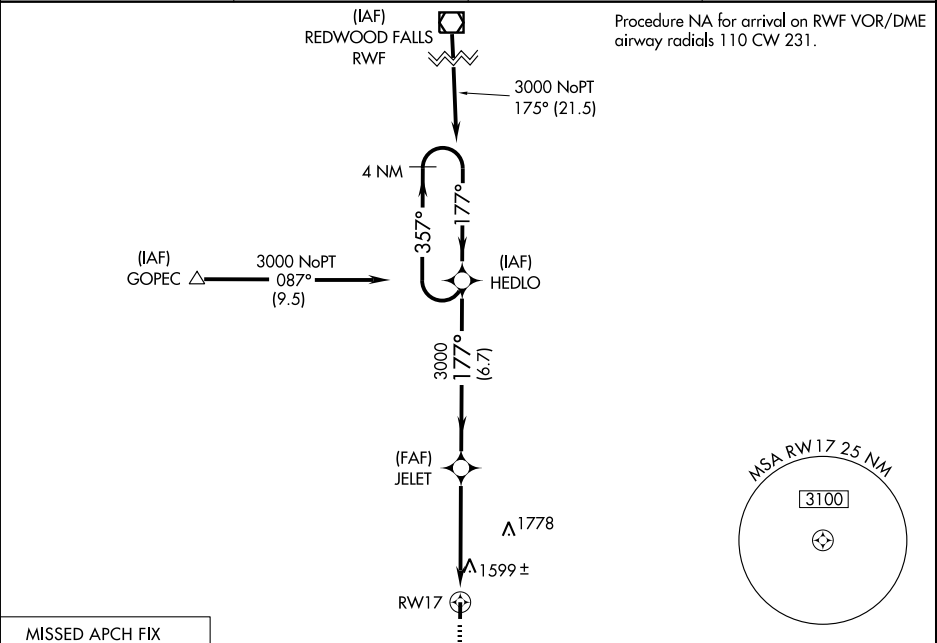
APP CRS	Rwy Idg	3599
177°	TDZE	1410
	Apt Elev	1410

# RNAV (GPS) RWY 17

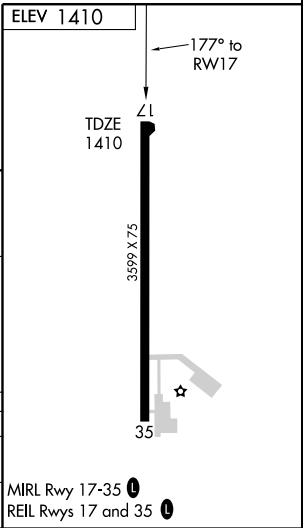
WINDOM MUNI (MWM)

NA	GPS or RNP-0.3 required. DME/DME RNP-0.3 NA. Circling not authorized at night to Rwy 35.	MISSED APPROACH: Climb to 3100 direct BAKAC WP and hold.
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AWOS-3 118.525	MINNEAPOLIS CENTER 127.1 290.2	CTAF 122.90	UNICOM 122.8
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CATEGORY	A	B	C	D
RNAV MDA	1860-1	450 (500-1)	1860-1¼ 450 (500-1¼)	NA
CIRCLING	1900-1	490 (500-1)	1900-1½ 490 (500-1½)	NA



⚠ NA

GPS or RNP-0.3 required. DME/DME RNP-0.3 NA.  
Procedure not authorized at night.

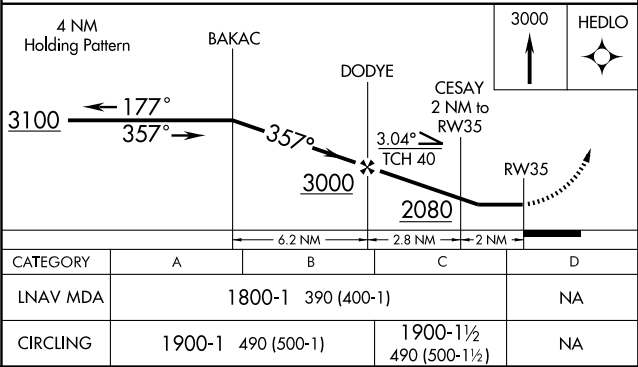
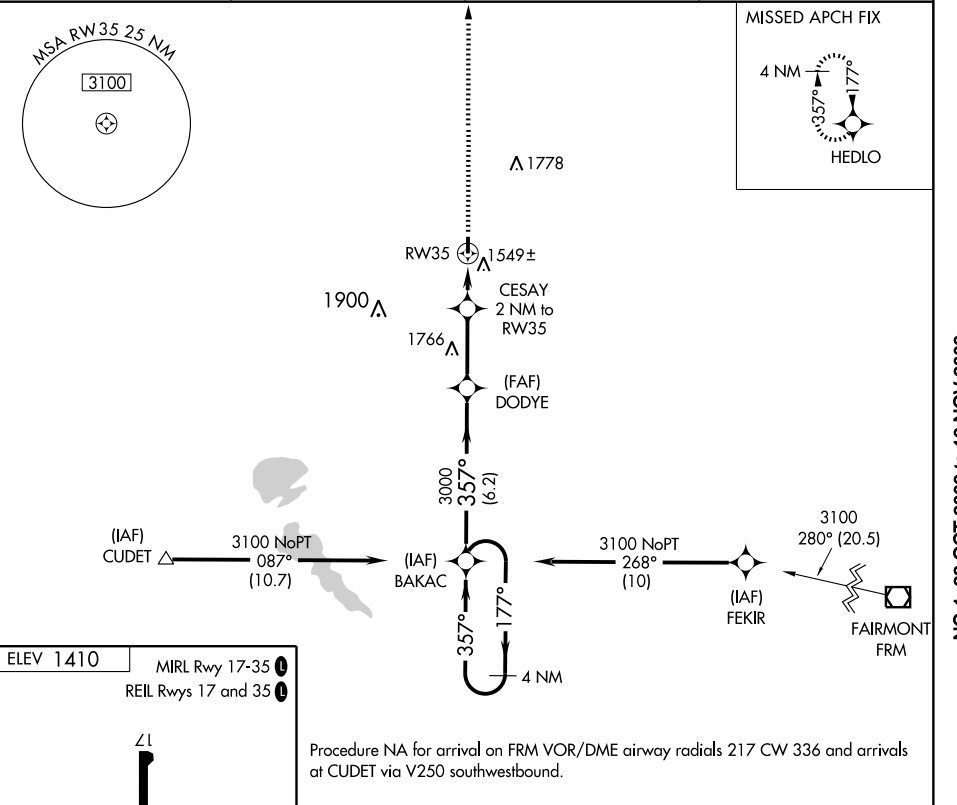
MISSED APPROACH: Climb to 3000 direct HEDLO WP and hold.

AWOS-3  
118.525

MINNEAPOLIS CENTER  
127.1 290.2

CTAF  
122.9

UNICOM  
122.8



NC-1: 22 OCT 2009 to 19 NOV 2009

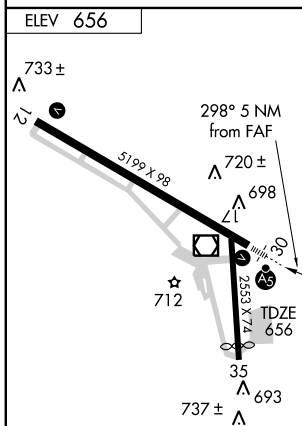
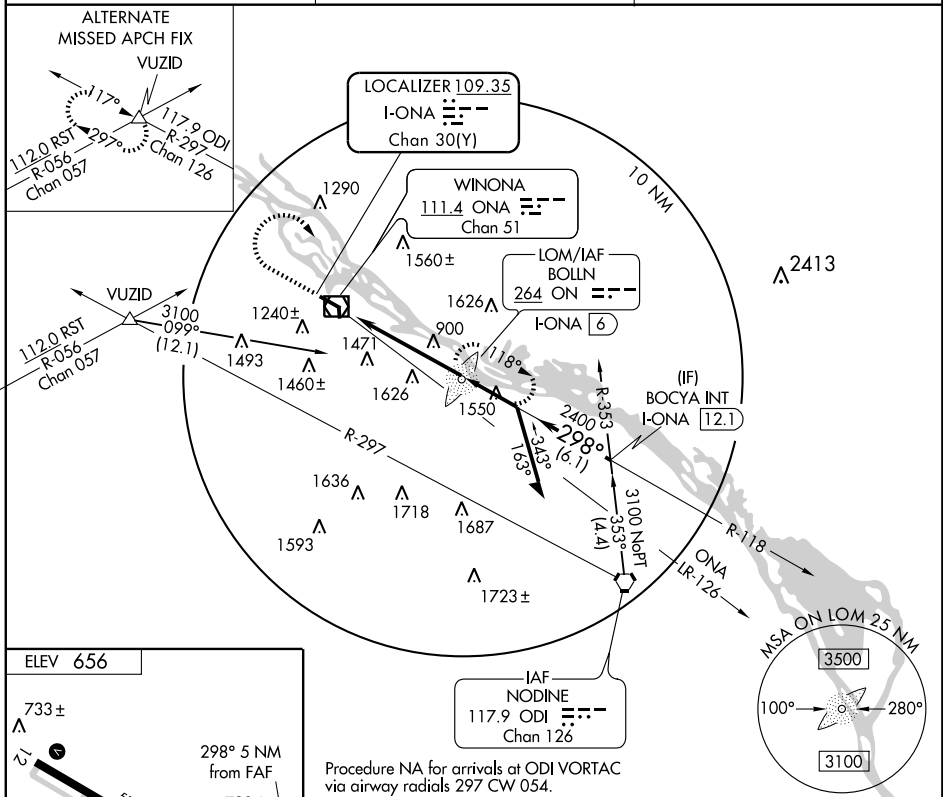
LOC/DME I-ONA <b>109.35</b> Chan 30(Y)	APP CRS <b>298°</b>	Rwy Idg TDZE <b>656</b> Apt Elev <b>656</b>	<b>5199</b>
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# LOC RWY 30

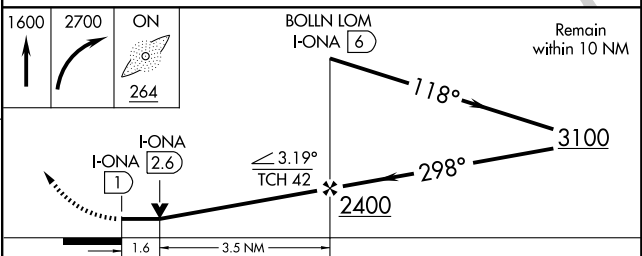
WINONA MUNI-MAX CONRAD FLD (ONA)

<p>ADF required. When local altimeter setting not received, use La Crosse altimeter setting and increase all MDA 60 feet and increase S-30 Cats C and D visibility ¼ mile. VDP NA when using La Crosse altimeter setting.</p> <p>NA</p>	<p>MALSR</p> <p>MISSED APPROACH: Climb to 1600 then climbing right turn to 2700 direct BOLLN LOM/I-ONA 6 DME and hold.</p>
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AWOS-3 <b>111.4</b>	MINNEAPOLIS CENTER <b>128.6 363.0</b>	UNICOM <b>122.8 (CTAF)</b>
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Procedure NA for arrivals at ODI VORTAC via airway radials 297 CW 054.



CATEGORY	A	B	C	D
S-30	1200-1/2	544 (600-1/2)	1200-1 544 (600-1)	1200-1 1/4 544 (600-1 1/4)
CIRCLING	1600-1 1/4 944 (1000-1 1/4)	1620-1 1/2 964 (1000-1 1/2)	1640-3 984 (1000-3)	1840-3 1184 (1200-3)

REIL Rwy 12

MRL Rwy 12-30

LOM ON  
264

APP CRS  
300°

Rwy Idg	<b>5199</b>
TDZE	<b>656</b>
Apt Elev	<b>656</b>

NDB RWY 30

WINONA MUNI-MAX CONRAD FLD (ONA)



Inoperative table does not apply to Cat A. When local altimeter setting not received, use La Crosse altimeter setting and increase all MDA 60 feet.



MALSR

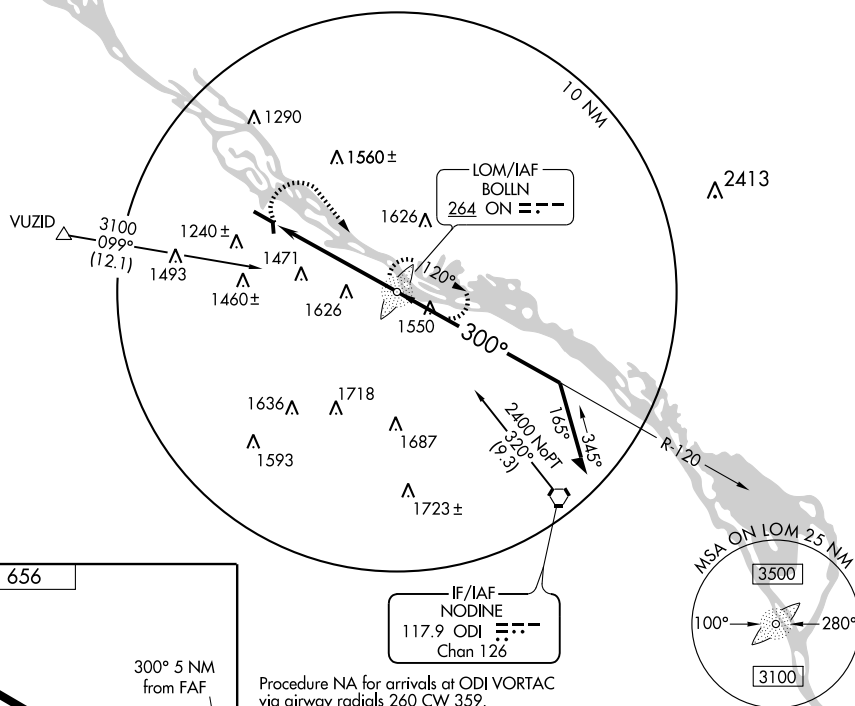


**MISSED APPROACH:** Climbing right turn to 2700 direct BOLLN LOM and hold.

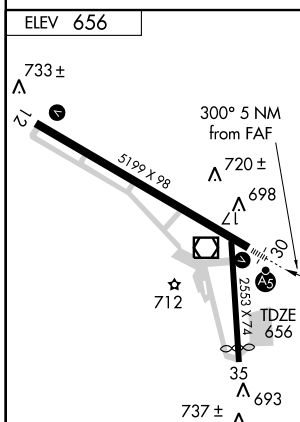
AWOS-3  
111.4

MINNEAPOLIS CENTER  
128.6 363.0

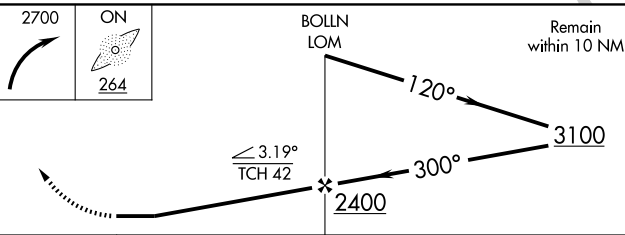
UNICOM  
122.8 (CTAF) **L**



NC-1. 22 OCT 2009 to 19 NOV 2009



Procedure NA for arrivals at ODI VORTAC  
via airway radials 260 CW 359.



CATEGORY	A	B	C	D
S-30	1980-1¼ 1324 (1400-1¼)		1980-2½ 1324 (1400-2½)	1980-2¾ 1324 (1400-2¾)
CIRCLING	1980-1¼ 1324 (1400-1¼)	1980-1½ 1324 (1400-1½)	1980-3 1324 (1400-3)	

REIL Rwy 12 **L**MIRL Rwy 12-30 **L**

APP CRS  
287°

Rwy Idg  
TDZE  
Apt Elev

5199  
656  
656

NA

GPS or RNP-0.3 required. DME/DME RNP-0.3 NA.

MALSR

MISSED APPROACH:

Climb to 1900, then climbing right turn to 3400 direct NACLA WP and hold.

AWOS-3 111.4	MINNEAPOLIS CENTER 128.6 363.0	UNICOM 122.8 (CTAF) 0
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CATEGORY	A	B	C	D
RNAV MDA	1460-1/2 804 (900-1/2)	1460-3/4 804 (900-3/4)	1460-13/4 804 (900-13/4)	1460-2 804 (900-2)
CIRCLING	1600-1 1/4 944 (1000-1 1/4)	1620-1 1/2 964 (1000-1 1/2)	1620-3 964 (1000-3)	1840-3 1184 (1200-3)

REIL Rwy 12 0

MIRL Rwy 12-30 0

NC-1: 22 OCT 2009 to 19 NOV 2009

VOR/DME ONA <b>111.4</b> Chan <b>51</b>	APP CRS <b>142°</b>	Rwy Idg TDZE Apt Elev <b>N/A</b> <b>N/A</b> <b>656</b>
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VOR-A

WINONA MUNI-MAX CONRAD FIELD (ONA)

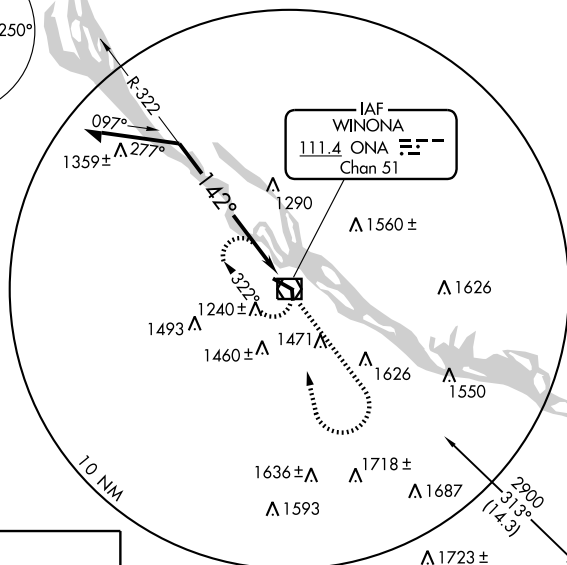
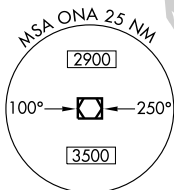


**A NA**

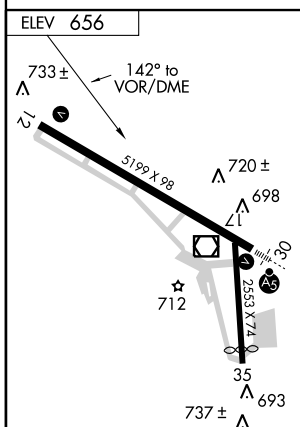
**MISSED APPROACH:** Climb to 2900 then right turn direct ONA VOR/DME and hold.

AWOS-3  
111.4

MINNEAPOLIS CENTER  
128.6 363.0

UNICOM  
122.8 (CTAF) 

2413



Remain  
within 10 NM

VOR/DME

2900



ONA  
  
 111.4

2900

[illegible]

CATEGORY

---

A

B

C

D

## CIRCLING

1660-1¼  
1004 (1100-1¼)

1660-1½  
1004 (1100-1½)

1660-3  
1004 (1100-3)

1840-3  
1184 (1200-

REIL Rwy 12 **L**MIRL Rwy 12-30 **L**

NC-1. 22 OCT 2009 to 19 NOV 2009

VOR/DME ONA  
**111.4**  
Chan **51**

APP CRS  
**292°**

Rwy Idg  
TDZE **5199**  
Apt Elev **656**

VOR RWY 30

WINONA MUNI-MAX CONRAD FIELD (ONA)

NA

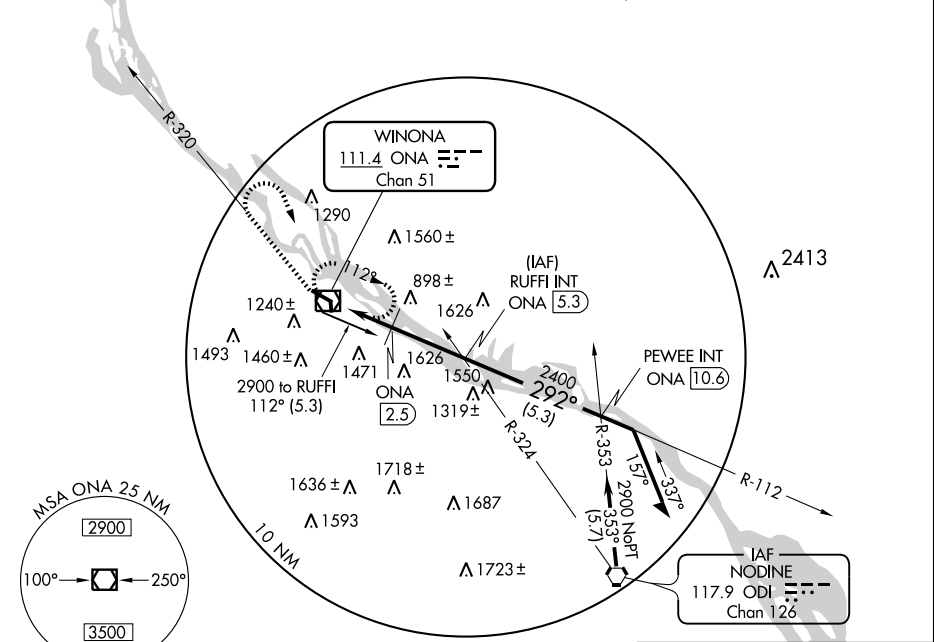
MALSRL

MISSED APPROACH: Climb to 2900 via ONA R-320 then right turn direct ONA VOR/DME and hold.

AWOS-3  
**111.4**

MINNEAPOLIS CENTER  
**128.6 363.0**

UNICOM  
**122.8** (CTAF) **1**



2900  
↑  
ONA R-320

ONA  
111.4

RUFFI INT  
ONA 5.3

Remain within 10 NM

VOR/DME

ONA 1.6

ONA 2.5

≤ 3.11°  
TCH 42

1460

2400

2900

0.1 1.5 NM 0.9 NM 2.8 NM

CATEGORY	A	B	C	D
S-30	1460-½ 804 (900-½)	1460-¾ 804 (900-¾)	1460-1¼ 804 (900-1¼)	1460-2 804 (900-2)
CIRCLING	1600-1¼ 944 (1000-1¼)	1620-1½ 964 (1000-1½)	1620-3 964 (1000-3)	1840-3 1184 (1200-3)
DME MINIMUMS				
S-30	1160-½	504 (600-½)	1160-1	504 (600-1)
CIRCLING	1600-1¼ 944 (1000-1¼)	1620-1½ 964 (1000-1½)	1620-3 964 (1000-3)	1840-3 1184 (1200-3)

ELEV 656

733 ±  
Λ

292° 5.2 NM from FAF

5199 X 98

720 ±  
Λ

698

712

2553 X 74

TDZE 656

35  
Λ

693

737 ±  
Λ

REIL Rwy 12 **1**  
MIRL Rwy 12-30 **1**

LOC I-OTG	APP CRS	Rwy Idg	5499
111.7	288°	TDZE	1570
		Apt Elev	1574

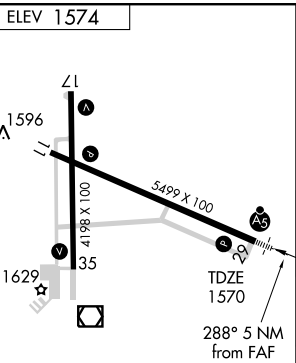
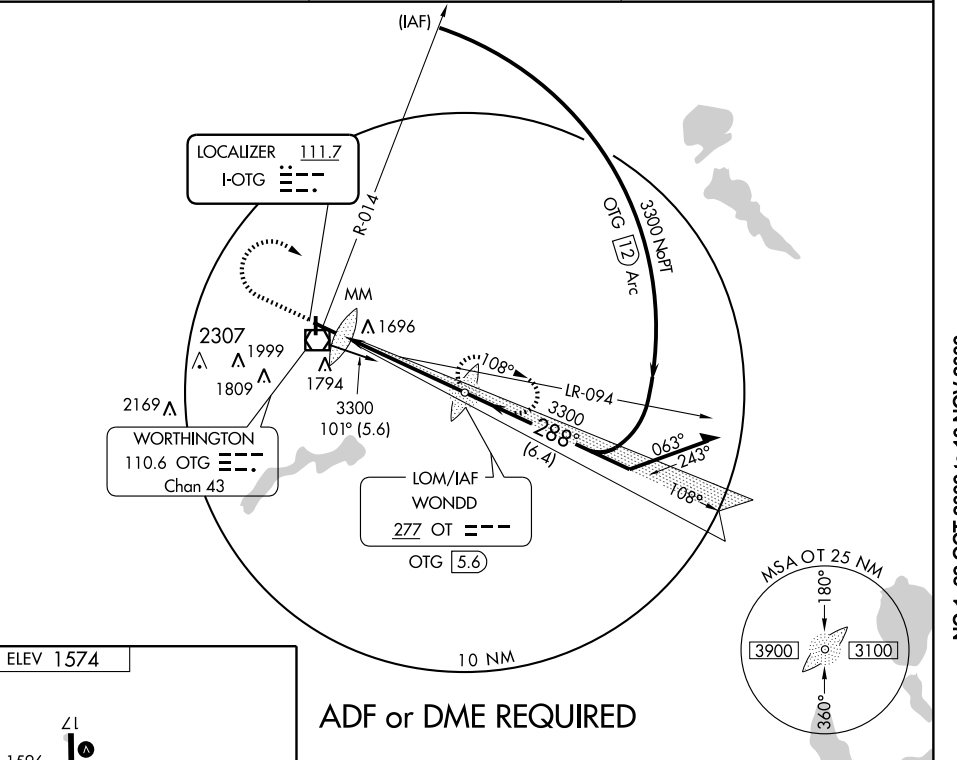
▼

▲ NA

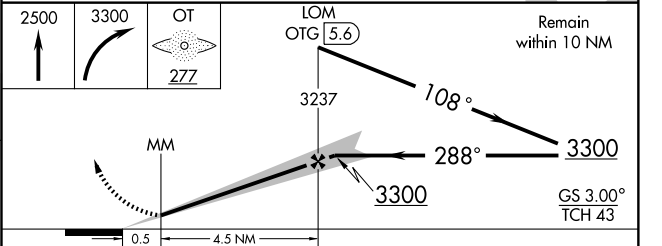
MALSR

MISSED APPROACH: Climb to 2500 then climbing right turn to 3300 direct WONDD LOM/OTG 5.6 DME and hold.

AWOS-3 110.6	MINNEAPOLIS CENTER 132.05 317.4	UNICOM 122.8 (CTAF) 0
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ADF or DME REQUIRED



MIRL Rwy 17-35 1					
HIRL Rwy 11-29 1					
REIL Rwy 11, 17, and 35 1					
FAF to MAP 5 NM					
Knots	60	90	120	150	180
Min:Sec	5:00	3:20	2:30	2:00	1:40
CATEGORY	A	B	C	D	
S-ILS 29	1770-½ 200 (200-½)				
S-LOC 29	1920-½ 350 (400-½)			1920-¾ 350 (400-¾)	
CIRCLING	2100-1 526 (600-1)		2100-1½ 526 (600-1½)		2140-2 566 (600-2)



LOM OT	APP CRS	Rwy Idg	5499
277	288°	TDZE	1570
		Apt Elev	1574

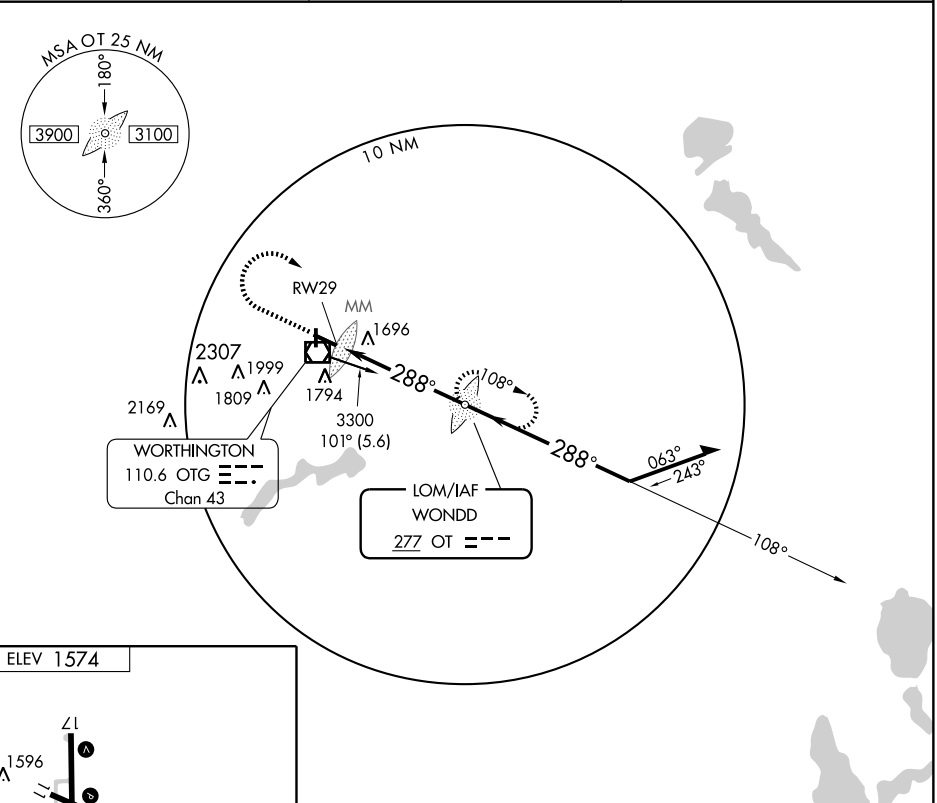
NDB or GPS RWY 29  
WORTHINGTON MUNI (OTG)

NA

MALS

MISSED APPROACH: Climb to 2500 then climbing right turn to 3300 direct OT LOM and hold.

AWOS-3 110.6	MINNEAPOLIS CENTER 132.05 317.4	UNICOM 122.8 (CTAF)
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ELEV 1574

MIRL Rwy 17-35

HIRL Rwy 11-29

REIL Rwy 11, 17, and 35

FAF to MAP 5 NM

Knots	60	90	120	150	180
Min:Sec	5:00	3:20	2:30	2:00	1:40

<div><div>2500</div><div>3300</div><div> 277</div></div>				
<div><div>RW29</div><div>LOM</div><div>3300</div><div>108°</div><div>288°</div><div>3300</div><div>3.16°</div><div>TCH 43</div><div>5 NM</div></div>				
Remain within 10 NM				
CATEGORY	A	B	C	D
S-29	2100-3/4	530 (600-3/4)	2100-1 530 (600-1)	2100-1 1/2 530 (600-1 1/2)
CIRCLING	2100-1	526 (600-1)	2100-1 1/2 526 (600-1 1/2)	2140-2 566 (600-2)

NC-1: 22 OCT 2009 to 19 NOV 2009

VOR/DME OTG

110.6

Chan 43

APP CRS

134°

Rwy Idg

5499

TDZE

1574

Apt Elev

1574

▼

▲

MISSED APPROACH: Climb to 2700 then climbing left turn to 3300 direct to OTG VOR/DME and hold.

AWOS-3

110.6

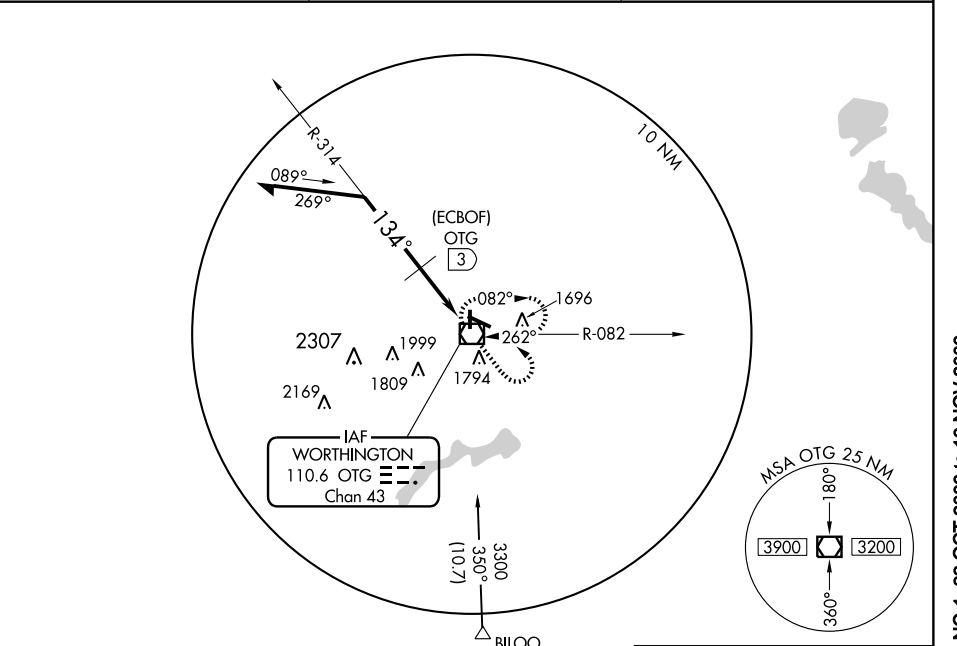
MINNEAPOLIS CENTER

132.05 317.4

UNICOM

122.8 (CTAF)

0



Remain within 10 NM

VOR/DME

2700

3300

OTG

110.6

VGSI and descent angles not coincident.

314°

134°

2260

2.35° TCH 42

2.4 NM

ELEV 1574

1596

1629

1574

4198 X 100

35

5499 X 100

134° to VOR/DME

CATEGORY	A	B	C	D
S-11	2260-1	686 (700-1)	2260-2	2260-2¼
CIRCLING	2260-1	686 (700-1)	2260-2	2260-2¼
DME MINIMUMS				
S-11	2020-1	446 (500-1)	2020-1¼	2020-1½
CIRCLING	2100-1	526 (600-1)	2100-1½	566 (600-2)

MIRL Rwy 17-35

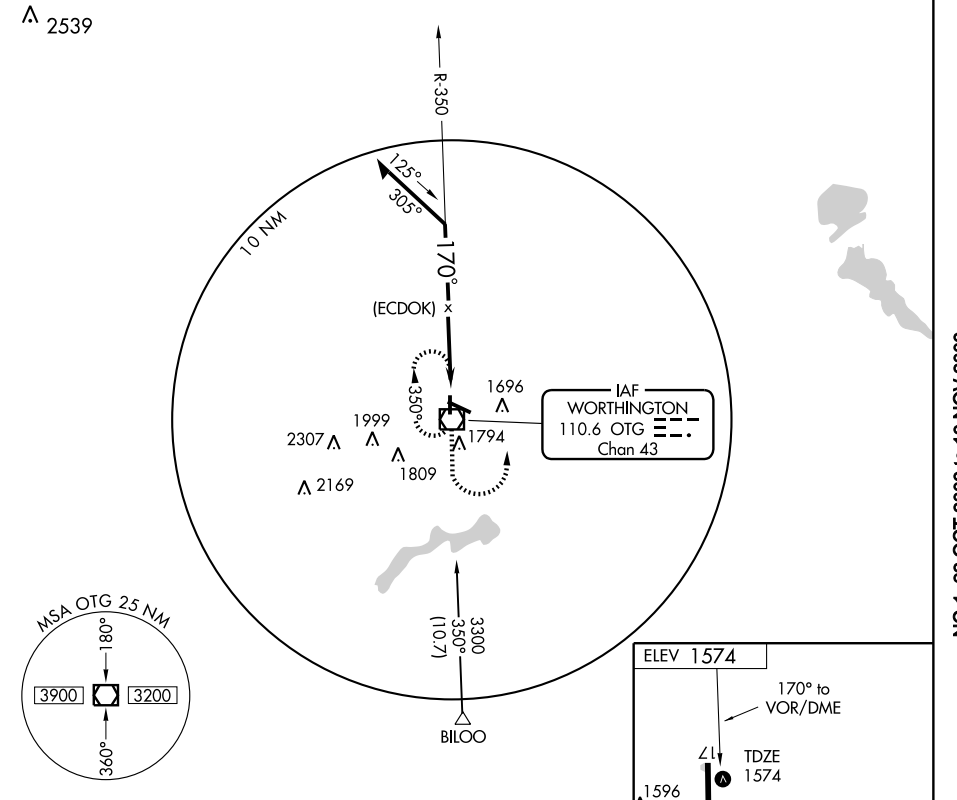
HIRL Rwy 11-29

REIL Rws 11, 17, and 35

NC-1: 22 OCT 2009 to 19 NOV 2009

MISSED APPROACH: Climb to 2500 then climbing left turn to 3300 direct OTG VOR/DME and hold.

AWOS-3 <b>110.6</b>	MINNEAPOLIS CENTER <b>132.05 317.4</b>	UNICOM <b>122.8</b> (CTAF)
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Remain within 10 NM

2500	3300	OTG 110.6
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CATEGORY	A	B	C	D
S-17	2000-1	426 (500-1)	2000-1¼	426 (500-1¼)
CIRCLING	2100-1	526 (600-1)	2100-1½	2140-2
			526 (600-1½)	566 (600-2)

ELEV 1574

MRL Rwy 17-35

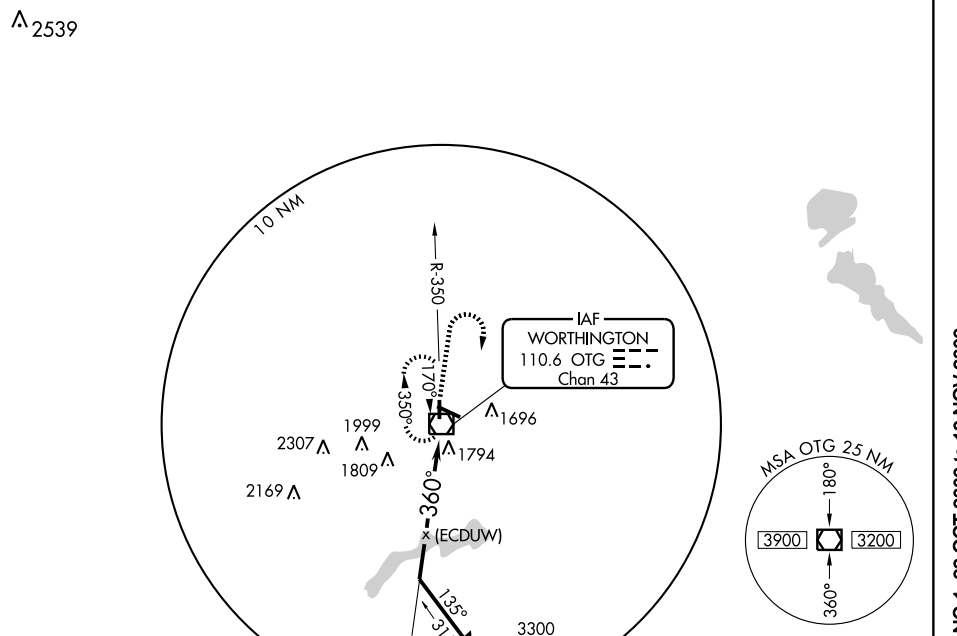
HIRL Rwy 11-29

REIL Rws 11, 17, and 35



MISSED APPROACH: Climb to 2700 then climbing right turn to 3300 direct OTG VOR/DME and hold.

AWOS-3 110.6	MINNEAPOLIS CENTER 132.05 317.4	UNICOM 122.8 (CTAF) 
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ELEV 1574

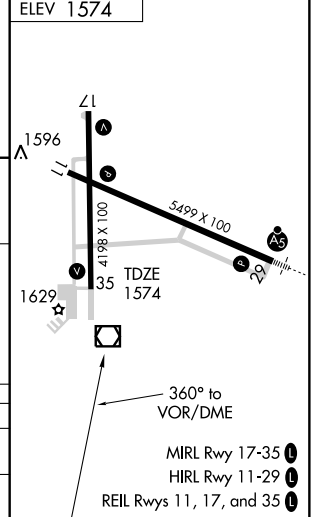


Diagram of the approach path showing altitudes and distances. The path starts at 1629, goes to 1596, then to 1574 (TDZE), and finally to 1574 (OTG). The path is 5499 x 100 feet wide. The path is 360° to VOR/DME.

Remain within 10 NM

VOR/DME

2700 3300 OTG 110.6

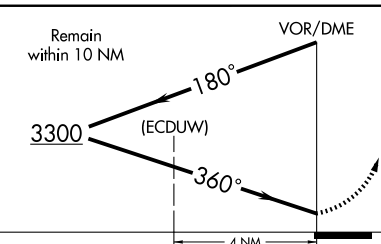




Diagram of the approach path showing altitudes and distances. The path starts at 3300, goes to 2700, then to 3300, and finally to 110.6 OTG. The path is 4 NM wide.

CATEGORY	A	B	C	D
S-35	2100-1	526 (600-1)	2100-1½ 526 (600-1½)	2100-1¾ 526 (600-1¾)
CIRCLING	2100-1	526 (600-1)	2100-1½ 526 (600-1½)	2140-2 566 (600-2)

MIRL Rwy 17-35 

HIRL Rwy 11-29 

REIL Rwys 11, 17, and 35 